

**MANAGEMENT OF CRIMINAL PROPENSITY AMONG DRUG
ADDICTS THROUGH YOGA, SPORTS AND RECREATIONAL
ACTIVITY**

A

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By

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DECLARATION

I declare that the thesis **entitled “Management of Criminal Propensity Among Drug Addicts Through Yoga, Sports and Recreational Activity”** has been prepared by me under the guidance of Dr. Neelam K Sharma, Associate Professor and Head of the Department of Physical Education, Lovely Professional University. No part of this thesis has formed the basis for the award of any degree or fellowship previously.

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ABSTRACT

Drug addiction is a chronic, relapsing brain disease that is characterized by compulsive drug seeking and use, despite harmful consequences (National Institute on Drug Abuse, 2014). Substance abuse had spread epidemically in the beginning of the 21st century (MacNeil, Stewart, & Kaufman, 2000). As per World Drug Report 2017 globally, premature deaths due to drugs are estimated to be 1,90,000 out of which the majority is attributable to the opioids use. An estimated quarter of a billion people of the world adult population, used drug a minimum of one time in 2015. Even more worrisome statistics is that, about 29.5 million of drug users suffer from drug use disorders and out of this, 70 percent of the diseases were attributable to opioids, thus causing the highest negative impact on health (United Nations Office on Drugs and Crime [UNODC], 2017). India ranks third largest producer of synthetic opium after Pakistan and Burma (Paoli, Greenfield, Charles, & Reuter, 2009). The menace of drug abuse in Punjab is worse than the rest of the country. The total number of drug users in Punjab is 2,32,856 out of which, 99% are male (Phukan, 2017). In this regard, Singh (2010) reported that the opiates consumption in the state of Punjab is thrice as per national average report. In India there are about two lakh intravenous drug users (IDUS) out of which Punjab counts 26.1% (National AIDS Control Organisation [NACO], 2012). Furthermore, there is 200 to 250 billion dollar expenditure in treating drug abuse (UNODC, 2010).

The review of existing literature shows that in India and specifically the state of Punjab has witnessed a gigantic use of drugs in the recent past years (Kalva and Bansal, 2012). Drugs are related to crime in many ways. To use, purchase, sold, manufacture or distribute illicit drug is considered as a crime. Propocyphe, methadone, opiates, heroin, cocaine, cannabis, amphetamine are a few examples of these illicit drugs. Their intake changes the behaviour of an individual thus making them vulnerable to aggression, violence and mental illness. A high percentage of crime is being done under the influence of drugs or liquor. Literature shows the role of drugs and alcohols in proliferation of crime. The use of drugs, alcohol consumption and violent crime are closely linked with each other (Valdez, Kaplan, & Curtis, 2007). Regarding this, Mumola (1999) reported that 60% to 80% of crime is related to drug. Additionally, Singh and Singh (2011) observed that drug users are involved in crime and possess traits that predispose individuals to criminal behaviour such as antisocial

personality disorder (ASPD). Criminal propensity explains the various forms of antisocial behaviour. “Criminal propensity is genetic however these pathological traits interact and are often aggravated by environmental social conditions” (Delisi, 2005). In the similar vein, Singh and Sharma (2016) reviewed literature pertaining to crime, behaviour of criminals and drug addicts. They identified four dimensions viz., aggression, disobedience, anti social behaviour and drug abuse to measure criminal propensity among drug addicts.

According to Nichols (1997) the effectiveness of sports and leisure activity in reducing crime has little evidence in the existing literature. In this regard, Smith and Waddington (2004) asserted that sporting schemes have shown little evidence of effectiveness in reducing the rate of crime and drug use. The existing literature examining the role of sports and recreational activity in the management of criminal propensity, mental health, aggression and loneliness among different sections of the society have shown inconsistent results. Also, it has been recommended in previous studies to consider sports participation with social health, mental health, rate of crime, drug use and implementation of a need based programme to reduce this social evil. The present study is the first of its kind that takes into consideration different treatment programme for the management of five different psychological parameters that are quite predominant among drug addicts. While, considering these research gaps, present study has framed the various objectives of the study.

The first objective of the present study was to assess the impact of selected training programme in yoga, sports, recreational activity, composite and control group for managing criminal propensity among drug addicts. Second objective was pertaining to examine the impact of selected training programme in yoga, sports, recreational activity, composite and control group for managing aggression among drug addicts. Third objective of the research was to analyse the impact of selected training programme in yoga, sports, recreational activity, composite and control group for managing loneliness among drug addicts. Fourth objective was to study the impact of selected training programme in yoga, sports, recreational activity, composite and control group for managing psychological well being among drug addicts. Fifth and last objective was to find the impact of selected training programme in yoga, sports, recreational activity, composite and control group for managing personality among drug addicts.

The present study was delimited to three drug rehabilitation centers in Jalandhar district. A total of 50 samples were selected for the present study with age ranging between 16 to 35 years. The training programme comprises of yoga, sports, recreational activity and composite has been design as per the nature of drug addicts. Therefore, selected activity of this programme was imparted. The dependent variable was delimited to criminal propensity, aggression, loneliness, psychological well being and personality for the present study.

A pre-test and post-test randomised research experimental design was selected to meet the various objectives of the study. A total of 75 samples were selected by means of purposive random sampling that were equally divided into four experimental groups and one controlled group (each group comprised of 15 samples). Experimental group 1: Yoga training group participated in yoga training programme. Experimental group 2: Sports training group participated in sports training programme. Experimental group 3: Recreational activity training group participated in recreational activity training programme. Experimental group 4: Composite training group participated in selected yoga, sports and recreational activities. Group 5 was considered as control group and no training was imparted to this group. The experiment programmes was implemented to the samples for a period of 10 weeks (i.e., 5 sessions per week, each of one hour). A total of 50 subjects out of 75 had gone through the complete training programmes, whereas 20 subjects left the center and the remaining 5 subjects could not fill the scales/questionnaire appropriately. Thus, the raw data of these 25 subjects was removed before the compilation of final data. Importantly, at the end of 10 weeks training programme, all the 5 groups were equal in sample size.

The instrument administrated in the study was finalised after a thorough review of literature. The instruments were selected while keeping in view the need for accomplishment of various objectives of the study. The tools were highly reliable and valid for its use in the present study. Also, the chronbach's alpha acceptable limit of the tool used in the present research work was well above the acceptable limit of .70 (Hair et. al., 2009).

The statistical tools and techniques used in the research work are descriptive statistics, Analysis of Covariance (ANCOVA) and post-hoc test using LSD (least Significant Difference). The analysis of the data was done using SPSS 16.0 version software.

Selected yoga asana, pranayama and different techniques of meditation were the selected activities in the yoga training programme. Sports training programme included football, volleyball, tennis ball cricket, handball and badminton. Recreational activity training programme comprises of selected outdoor recreational activities. Composite training programme included selected activities of yoga, sports and recreational activity. The control group was considered as the fifth group in this study. This group was not exposed to any type of training programme.

Data analysis resulted in the following major findings and recommendations:

- [1] This findings of the study revealed that selected training programme of yoga, sports, recreational activity, composite and control group have shown significant difference during post-test stage in the management of criminal propensity among drug addicts. The adjusted mean value of sports group was founded to be least, thus sports training group was the most effective treatment group and control group was the least effective treatment group in reducing criminal propensity among the subjects. Thus, the $H_{(0)}$ “There exists no significant difference among the adjusted post-test means of criminal propensity among five treatment groups” was failed to be get accepted.
- [2] The selected training programme of yoga, sports, recreational activity, composite and control group have shown significant difference during the post-test stage in the management of aggression among drug addicts. The adjusted mean value of composite training group was founded to be least, thus composite training group was founded to be the most effective treatment group and control group was the least effective treatment group in reducing aggression among the drug addicts. Thus, the $H_{(0)}$ “There exists no significant difference among the adjusted post-test means of aggression among five treatment groups” was failed to get accepted.
- [3] The selected training programme of yoga, sports, recreational activity, composite and control group have shown significant difference during the post-test stage in the management of loneliness among drug addicts. The adjusted mean score of the sports training group was slightly better compared to other treatment groups. Thus, based upon the findings it was concluded that sports training group was the most effective treatment group and control group

was the least effective treatment group in reducing loneliness among the subjects. Thus the $H_{(0)}$ “There exists no significant difference among the adjusted post-test means of aggression among five treatment groups” was failed to get accepted.

[4] The selected training programme of yoga, sports, recreational activity, composite and control group have shown no significant difference during the post-test stage in the management of psychological well being among drug addicts. Thus, the $H_{(0)}$ “There exists no significant difference in the selected training programme in yoga, sports, recreational activity, composite and control group for managing psychological well being among drug addicts was failed to get rejected”.

[5] The selected training programme of yoga, sports, recreational activity, composite and control group have shown no significant difference during the post-test stage in the management of personality among drug addicts. Thus, the $H_{(0)}$ “There exists no significant difference in the selected training programme in yoga, sports, recreational activity, composite and control group for managing personality among drug addicts was failed to get rejected”.

The findings of this research can be considered by the government while framing various policies for the management of criminal, aggressive and loneliness behaviour among drug addicts. In this concern, life skills training programme can be provided to build resilience at risk and to reduce anti-social behaviour among youth. Policies and awareness programmes need to be implemented to highlight the importance of sports in order to reach out youth, including socially excluded groups in society. This study can be very useful in preventing the youth at risk to criminal propensity, high aggressive behaviour and drug abuse in various schools, colleges, universities and other educational institutions. The study is of immense importance for framing drug addiction rehabilitation programme among different sections of the society. Psychiatrists, researcher and professionals can use this study for screening, identifying anti-social behaviour among different sections of the society. The study has highlighted the significance of ‘sports, recreational activities and yoga practices’ to curb the criminal propensity. Therefore, it can be applied in prisons around the world for the management of stress, general health and the alleviation of different physical problems and to correct and reform the criminal personality among them.

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CHAPTER 1

INTRODUCTION

1.1 Drug Addiction

Over the last decade, drug abuse has become a menace affecting millions of youth and children in our nation. States like Mizoram, Goa, Manipur and Punjab has been facing this epidemic over a long period of time. In Punjab, the total number of drug users is 2,32,856 out of which, 99% are male (Phukan, 2017). It is presently a social evil that wrecks the health and lives of the drug addicts (Sharma & Sharma, 2015). The word addiction is a compulsion and dependence that can occur in relation to any substance or behaviour. “Drug addiction is a chronic, relapsing brain disease that is characterized by compulsive drug seeking and use, despite harmful consequences” (National Institute on Drug Abuse, 2014). Substance abuse had spread epidemically in the 21st century (Macneil, Stewart, & Kaufman, 2000). “Substance abuse refers to the harmful or hazardous use of psychoactive substances, including alcohol and illicit drugs. Psychoactive substance use can lead to dependence syndrome a cluster of behavioural, cognitive and physiological phenomena that develop after repeated substance use and that typically include a strong desire to take the drug, difficulties in controlling its use and persisting in its use despite harmful consequences” (World Health Organisation [WHO], n.d.). A total of 190 million people all over the world consume one or the other form of drug (Miller & Sanchez, 1993). As per the 2010 reports of United Nation Office on Drug and Crime “Approximately 5% of the global population used an illicit drug”. There are about 2.5 million death per year, while death toll due to cocaine, heroin and other drug is 0.1 to 0.2 million per year. Besides death illicit drug abuse raises morbidity rate and puts tremendous pressure on society for treating it”. Further, there is 200 to 250 billion dollar expenditure in treating drug abuse (United Nations Office on Drugs and Crime [UNODC], 2010). As per World Drug Report 2017 globally, premature deaths due to drugs are estimated to be 190,000, out of that majority is attributable to the opioids use. Drug use has put a terrible impact on human health which is clearly noticeable in related cases of hepatitis, HIV and tuberculosis. An estimated quarter of a billion people of the world adult population, used drug a minimum of one time in 2015. Even more worrisome statistics is that about 29.5 million of those drug users suffer from drug use disorders,

out of this 70 percent of the disease were attributable to opioids thus caused the highest negative impact on health, but cannabis was globally most widely used drug, with an annual prevalence of 3.8 percent of the adult population, amphetamines remained the second most commonly used drug worldwide. India ranks third largest producer of synthetic opium after Pakistan and Burma (Paoli, Greenfield, Charles, & Reuter, 2009). The menace of drug abuse in Punjab is worse than the rest of the country. Singh (2010) reported that the opiates consumption in the state of Punjab is thrice as per national average report. In India there are about two lakh intravenous drug users (IDUS) out of which Punjab counts 26.1% (National AIDS Control Organization [NACO], 2012). Iyer's (2014) mentioned about Narcotics Drugs and Psychotropic Substance Act 1985, an act to strengthen and to make amendments in the law related to narcotics drugs to make stringent provisions for the control and regulations of operations related to those drugs and substances. To this concern, the government of India constitutes national fund for control of drug abuse to meet the expenditure taken for combating illicit trafficking and controlling abuse of narcotic drug and psychotropic substance for all. Kalpana and Kavya (2015) stated that substance abuse is a global havoc while the loss in term of potentiality of the human being is incalculable. Thus appropriate measures required to be find out to point precursors for use, to understand being alcoholic and drug abuse disorders developmental progress and drafting programs that avert substance use and abuse successfully. Tabler's (1993) observed drug abuse arises out of a maladaptive pattern of substance use manifested by recurrent and significant adverse consequences related to the repeated intake of the substance. The alcohol and illicit drug abuse continues to be a major health concerning issue. It increases risk for underachievement in academics, delinquency, pregnancy and depression (Belcher & Shinitzky, 1998). In this regard, Liddle (1999) asserted that family has great impact on the characteristics of the new generation. Family attributes that possesses a history of alcoholism, substance abuse, family disputes and high level of indiscipline place their children at high risk for illicit drug abuse.

Drugs are related to crime in many ways. To use, purchase, sold, manufacture or distribute illicit drug is considered as a crime. Propocyphe, methadone, opiates, heroin, cocaine, cannabis, amphetamine are a few examples of these illicit drugs. Their intake changes the behaviour of an individual thus making them vulnerable to

aggression, violence and mental illness. A high percentage of crime is being done under the influence of drugs or liquor. Literature shows role of drugs and alcohols in proliferation of crime. Regarding this, Mumola (1999) reported that 60% to 80% of crime is related to drug. In addition, Singh and Singh (2011) observed that drug users are involved in crime and possess traits that predispose individuals to criminal behaviour such as antisocial personality disorder (ASPD). In America 60 to 70 % of juvenile arrested for numerous convictions were tested positive for drugs, out of that 50 to 60% of juvenile blood samples were found to be tested positive for marijuana (National Center on Addiction and Substance Abuse, 1998). According to Hoaken and Stewart (2003) alcohol is undoubtedly the utmost drug to support intoxication and violence relationship. Contrary to this, cannabis intoxication decreases likelihood to violence, but multiple evidence correlate its withdrawal with aggressive behaviour. In addition, individuals who abuse opiates are probably more aggressive. In this regard, Loeber, Farrington, Stouthamer-Loeber, & Van, 1998; Scal, Ireland, & Borowsky, 2003; Weiner, (2002) confined that an increased level of violence is strongly correlated with the higher levels of alcohol consumption, smoking, marijuana and other drug use. Gerra et al. (2001) proposed a study using a laboratory measure of aggression, which revealed that heroin dependent subjects treated with methadone had greater level of aggression when compared to healthy controls. As per Moeller et al. (2002) patients dependent to cocaine along with antisocial personality disorder are likely to be more aggressive than the control patients. Wittrock (2006) identified crime rate among drug user is greater and also possess more criminal records than non-users. Individuals with criminal records had more tendencies towards being drug users in comparison to others. A study conducted on 172 drug abusers identified frustration, anxiety and loneliness as the most predominant psychological problems of drug abusers (Shirazi et al., 2011).

1.2 Crime

Paranjape (2007) in his book ‘Criminology and Phenology’ stated “The conducts which are prohibited by law at a given time and place are known as crimes”. Man being animal by nature has a fighting tendency hence there can be no society without crime and criminals. The word ‘crime’ is derived from the latin word ‘Krimos’ which means ‘to accuse’. It covers those acts which are against social order and deserve disapprobation and condemnation of society. As stated that crime are essentially

concerned with social order. Emile Durkheim (as cited in Paranjape, 2007) 'Crime as a Normal Phenomenon' mentioned a society composed of persons with angelic qualities would not be free from violation of the norms of that society. Crime is a dynamic concept because it changes with the social mutation. It is very difficult to find out a precise definition of crime because it varies from society to society and depends upon norms, beliefs and customs of a particular society. It may be defined as an immoral and antisocial behaviour. Tappan (1960) in his book 'Crime Justice and Correction' has defined "crime as an intentional act or omission in violation of criminal law committed without any defence or justification and penalized by the laws as felony or misdemeanor". Gillin (1945) defines crime as an act that has been shown to be actually harmful to the society. It is absolutely true that both crime and criminal are looked by all section of the society with hatred. A standard that does not accord with the prescribed standard set by the society is loosely known as crime. Thus the term crime prescribes an act that determines violation of law while as these acts don't have the approval of the society because such behaviour hurts the moral sentiments of the society. According to Stephen (as cited in Misra, 2008) "Crime is an act forbidden by law and which is at the same time revolting to the normal sentiments of the society". Miller (as cited in Misra, 2008) stated "crime is to be the commission or omission of act which the law forbids or command under pain of a punishment to be imposed by the state by a proceeding in its own name".

1.3 Criminal Propensity

Children are the precious diamonds of a nation and when they get indulged in drug addiction they are tagged with a name better known as drug addicts. Drug addicts had the potential to be a crystallized energy reservoir of a nation. So it's vital to have their conformity with regard to the social norms. The growing and developing period of children continues overwhelmingly from childhood to adolescents and there personality changes and stabilizes with respect to time, so it's vital to put emphasis on proper supervision, so that a propriety remains among their traits thus representing a personality that will glitter the nation one day.

Criminal propensity explains the various form of antisocial behaviour, "criminal propensity is genetic however these pathological traits interact and are often aggravated by environmental social conditions" (Delisi, 2005). Young people with a strong morality and capability to exercise self control are likely to refrain from crime,

regardless of their level of criminogenic exposure while those with a weaker morality and capability to exercise self control are more likely to engage in acts of crime when exposure to criminogenic setting. People's exposure to criminogenic settings is dependent on the places they frequent and with whom they tend to frequent with them. Criminal propensity is defined as criminal minds, which are defined as the mindset that allows people to consider using illegitimate means to achieve a goal. As per criminal mind models the five offences included are digital piracy, stealing, drug use, sexual assault and physical assault. The presence of criminal minds equals criminal propensity, without the presence of criminal minds, illegitimate means will not be considered options to achieve the goal and hence no criminal propensity will exist. The criminal mind models posit that there is variation in criminal propensity and this proposition is considered as the heart of the criminal mind model (Yu, S, 2010). As per self-control theory criminal propensity is viewed as a general propensity that can lead to all kinds of crime or analogous behaviours (Vold, Bernard, & Snipes, 2002). Furthermore, Wright, Caspi, Moffitt, and Silva (2001) explained that crime reduces effect of prosocial ties and is considered more dominant among those with increased levels of criminal propensity. They denied that antisocial peers criminogenic force would give rise to offending behaviours, especially to those that are prone to high level of criminal propensity. Further, labeled this process as a effect of social amplification and suggested that those with higher levels of criminal propensity are swayed more easily into antisocial action and those who are less prone towards crime can restrain stimulation by antisocial peers. Conversely to this Cochran, Jones, Jones, and Sellers (2016) explained that there is possibility of different moderate factors of criminal propensity when specific predictors of a specific crime are examined. It was suggested that those with higher level of criminal propensity are under greater influence to commit crime regardless of external factors. Thus those with a lower rate of criminal propensity are influenced more by external factors such as peers. The absence of such factors would not push them towards criminal behaviour thus restraining them to commit crime. In this regard, a number of theories were tested by Ousey and Wilcox (2007) which postulated, that the effect of antisocial peers was more strongly correlated to delinquency in those that have an increased level of criminal propensity. Singh and Sharma (2017) reviewed literature pertaining to crime, behaviour of criminals and drug addicts. They identified four dimensions, aggression, disobedience, anti social behaviour and drug abuse to

measure criminal propensity among drug addicts. Anti social behaviours are the acts that violate social rules. They include intended to abusing others, destruction of public property, theft, deceitfulness and serious rule violations. Childhood antisocial behaviour is a central element in the development pathway leading to adolescent alcohol abuse or dependence (Clark, Michael, & Cornelius, 2002). As per Clark, Kirisci, and Moss (1998) childhood antisocial behaviours predict early initiation of alcohol use, adolescent alcohol related problem and the onset of alcohol use disorder. Serious antisocial behaviours have remarkable developmental stability in boys and girls and these behaviours persist through out various stages of childhood and adolescence (Loeber, Burke, Lahey, Winters, & Zera, 2000). The propensity for serious anti social behaviours are quite stable across the lifespan, the manifestation of this propensity varies according to developmental stages. This concept has been termed 'heterotypic continuity' (Moffitt, 1993).

1.4 Aggression

Lewis (1996) defines human 'aggression' as behaviours by one person intended to cause physical pain, damage or destruction to other. Aggression is a physical or verbal behaviour (Baundra, 1993; Newman and Newman, 1997) intended to hurt someone physically or verbally (Myers, 1993). It involves violence, attack and destructive behaviour carried imminently to harm the victim that results in pain (Berkowitz, 1993; Baron and Richardson, 1994; Bushman and Anderson, 2001; Geen, 2001). Its manifestation could be carried out directly or indirectly, actively or passively, sometimes it can be executed with instrumental or hostile way and sometimes impulsively or planned manner (Adams & Brombley, 1998). Physical aggression occurs through direct physical damage or by giving threat to damage other person physically, this includes traits of physical attacks or threat of physical attacks (Crick, Casas, & Mosher, 1997). On the other side relational aggression is a non-physical form of aggression, inflicting harm to other person by deliberately damaging someone's relationship and social status, thus excluding a peer from social framing (Crick, 1996; Galen & Underwood, 1997). The drug and aggressive behaviour is havoc at present time and is increasing globally with rapid pace along with dire consequences (Hoaken, Hamill, Ross, Hancock, & Tapscott, 2012). Bhardwaj (2005) perceived that aggressors are linked with risky lifestyles, thus drowned by behavioural problem, delinquency, drug abuse and with other various medical complications

involving cardio vascular diseases, cancer and brain damage. Drug use is linked frequently with human aggressive behaviour (Phil & Sutton, 2009). Aggression is at high level among drug users as compared to non-users. Aggression in early life is also a risk factor for the subsequent development of drug abuse (Bukstein, 1996). Aggression is an early risk factor for delinquency and drug abuse and criminal propensity, so emphasis should be put in appropriate handling of aggressive behaviour of youth. A high level of antisocial behaviour can lead to the activities that are antisocial in nature (Shazad, 2005). This link up a major social problem, individuals that struggle with the use of drug and aggressive behaviour behave in a irresponsible manner (Hammersley, 2011). Furthermore, Skara et al. (2008) concluded that physical aggression and relational aggression are predictive of subsequent drug use and provides important guidelines for prevention and intervention programmes for its control.

1.5 Loneliness

Human being is gregarious in nature and cannot survive without the assistance of society. Akerlind and Hornquist (1992) stated that “Man is a social creature, totally dependent on the group for his or her development and survival as a human being”. Socialization guides attributes for being a civilized person of a society. Loneliness is painful and distressing multidimensional experiences, a totally different subjective experience universal among all human, although it is effected by individual background, personality and situational variables (Rokach & Brock, 1997). In this regard, Erozkhan (2009) stated that loneliness increases due to lack of belongingness and social support. Loneliness may cause deterioration of all the physical and mental capabilities of an individual. Mayer (1976) described “Loneliness as including a feeling of inner void, a detachment from one’s self and an alienation from one’s core identity”. According to Hagerty and Williams (1999) emotional isolation and social isolation are the two different facets of loneliness experienced by the individuals. Emotional isolation is expressed as a feeling of emptiness in the inner world of a person. In case of social isolation a person is feeling excluded from being as a part of society. Loneliness become chronic when there are restriction to social participation continued for a longer duration (Rubin & Coplan, 2004). Margalit (2010) stated that loneliness is a main source of distress that hampers quality of life. Chronic loneliness is linked strongly with an individual emotional and social health (Heinrich & Gullone,

2006) and this invites multiple long period psychiatric illness like consequences leading to anxiety, stress (Asher & Paquette, 2003; Kearns, Whitley, Tannahill, & Ellaway, 2015) aggressive behaviour (Buelga, Musitu, Murgui, & Pons, 2008) and depression (Shevlin, Murphy, & Murphy, 2014). Rokach and Brock (1997) identified that a major proportion of population feel lonely frequently. In addition, Rokach (2005) observed a prevailing experience of loneliness among adolescent and young adults.

Indeed people of young age perceive loneliness linked with sadness and boredom (Hymel, Tarulli, Hayden, & Terrell, 1999). Rotenberg (1994) considered loneliness a major problem in present society that is linked to substance abuse, alcoholism, depression and drop out from school. Drug abuse had a prevailing impact on the loneliness of an individual (Olmstead, Guy, & Bentler, 1991). Adults who consume variety of drugs frequently feel alienated (Shedler & Block, 1990). Research in this area identified that loneliness among drug addicts is higher to a greater extent as compared to general population (Akerlind & Hornquist, 1992). Regarding this notion, Rokach (2005) suggested that loneliness is rampant among drug addicts because they are not able to cope with it effectively as comparable to other general population. Shelder and Block (1990) identified that social isolation and alienation among drug addicts is the result of their own feeling and needs. Indeed, loneliness is linked to anxiety, depression and interpersonal hostility in drug and alcoholic abusers (Lau & Kong, 1999). In addition, loneliness have greater influence on psychosocial problems (Heinrich & Gullone, 2006). Further, according to Basaran (2016) detention houses are one of the places where the feel of loneliness is deeply felt by the individuals, detention homes polarized individuals from their family and beloved one thus leaving them uneasy and lonely. The present need demands pertinent etiquettes among the drug addicts in which the society requires to be meticulous while handling this solomen issue. Rokach (2005) enlisted some coping strategies to counter loneliness among drug addicts viz; social support network, increased activity, self developed understanding, acceptance and reflection. Furthermore, Hosseinbor, Ardekani, Bakhshani, and Bakhshani (2014) have suggested to keep loneliness into consideration while designing programme to prevent and treat addiction.

1.6 Psychological Well Being

Optimum health motivates individual in achieving their goals in their life, contrary to it a negative psychological well being over a prolonged period leads to ill effects such as mental illness, anxiety and depression, which can create psychological and physiological problems in future (Hiroeh, Appleby, Mortensen, & Dunn, 2001). Psychological well being refers to a positive view of one's self life and includes aspects of satisfaction of life and self esteem (Lent, 2004). The term well being has been explored by several researchers of different disciplines and had given multiple definitions, conceptualisations and measurements. Thus, available literature helps in identifying three major categories of well being first, psychological well-being which examines individual levels of mental satisfaction with processes and practices, second physical well-being which is expressed in terms of health outcomes and lastly, social well-being explaining the quantity and quality of social networks along with individuals perception regarding fairness and equity (Grant, Christianson, & Price, 2007). Psychological well being is also defined as individual's attitude and feelings (Diener, 2000). It represents an individual affective state of mind such as experiences of depression, anxiety and self-esteem. It can be expressed in terms of good health, feeling of satisfaction and an optimistic approach towards life. Individual with high level of depression experience a depleted level of mental health which is evident by their negative emotions, feelings of low self-worth and confidence (Warr, 1990). Psychological well being is defined as a complex and multidimensional construct. In its simplest form, psychological well being represents "a generalised feeling of happiness" (Schmutte & Ryff, 1997). It represents wellness which is considered as "progressions of continued growth across the life course" (Ryff, 1995). Further, Ryff (1995) defined psychological well being as a well structured and a multi-dimensional construct that encompasses various dimensions of wellness which include positive evaluation of oneself and one's past life, a sense of sustained growth and development as a person, the establishment and the sustaining of quality relations with others, the capacity to effectively manage one's life and the surrounding world and lastly a sense of self determination.

Illegitimate use of drugs is a major problem in country like India as well as in other countries, creating intense difficulties for individuals, families and the society. Given the concern about the problem of drug addiction, rehabilitation centers have increased

in number to provide treatment against the use of drugs and various other services such as brief psychotherapy, occupational therapy, vocational training, moral and religious teaching, behaviour training and recreation. These programmes are designed to decrease and overcome the drugs problem, inspite of these enduring efforts drug use is still on the rise. Drug abuse can lead to various secondary problems such as failure, physical injuries, emotional difficulties and possibly death. According to Bukoye (2017) about 30% of people who take drugs like marijuana, heroin, cocaine, among others take it to gain autonomy, relatedness, competence and to relief themselves out of stress. When their objectives get failed, their psychosocial well being gets upset that result in frustration and greater ill behaviour. Therefore, it is important to study psychological well being among individuals in the prevention and treatment of drug abuse. This can function as a coping mechanism to overcome stress and increase self-efficacy to reduce the incidence of drug use. Furthermore, individuals with high level of psychological well being mostly engage in positive activities while managing daily stress to have a positive self regard and a sense of competence as well as control.

1.7 Personality

Personality is the result of an individual interaction with the environment. Heredity and environment are the important factors that are responsible for the development of a personality. Personality is a dynamic totality which continuously changes due to environment interactions. According to Kamlesh (2002) “Personality is a dynamic organisation because it consists of biological innate disposition, impulses, instincts, emotions, thoughts of the individual that determines his unique adjustment to his environment”. As per Eysenck (as cited in Kamlesh, 2002) stated personality as more or less stable and enduring organization of an individual personal character, temperament, intellectual ability and physique, which determines his unique adjustment with the environment. Personality traits are the attributes that differentiate people from each other. These traits are personal characteristics that are used to describe and explain personality. Pervin (2003) stated personality traits as broad regularity or consistency in the behaviour of people. They are commonly used by people in describing their personality and are seen by trait psychologist as the basic unit for explaining the individual differences in personality. As per Larsen, Buss, and David (2005) “One of the goals of the personality psychology is to allow for

individual uniqueness and to develop ways to capture the richness of uniqueness in individual life”. According to Kamlesh (2002) traits are considered as building blocks of personality. The two major approaches defining traits as building blocks of personality are ‘idiographic approach’ of Gordon Allport that identifies traits as the study of individual in depth and focusing on the different qualities of their personalities and the other one is ‘nomothetic approach’ of Raymond Cattell that focuses on the personality traits among cluster of people. There are various taxonomies regarding personality such as Eysenck. Eysenck developed a model of personality based on multiple traits that were highly heritable viz., psychoticism, extroversion, introversion and neuroticism, these traits are together known by the acronym ‘pen’ (Eysenck & Eysenck, 1975). Personality development includes both the continuities and changes in personality as it stabilises as well as alters along with time. Larson and Buss (2008) defined “Personality as the continuities, consistencies and stabilities which people developed over time and the ways in which people change over time”. Graziano (2003) observed that personality development examines the important ways of thinking about stability in personality over time. Human personality encompasses various periods in its life span. Erikson (as cited in Chand & Prakash, 2007) revealed that in personality there are eight critical periods in the whole life span of an individual i.e., early infancy, late infancy, early childhood, middle childhood, adolescence, early adolescence, middle adolescence and late childhood period respectively.

Over the last two decades, drug intake practices have spread cancerously in different strata of the society among different age groups. There are numerous studies that have focused on the relationship between addiction and personality. Lang (1983) asserted that personality traits play an important role in addiction development, thus considered them as important perspective for the fight against addiction. The reflection of the multiple studies have picturised that individual with certain multiple traits is more prone to addiction (Cox, 1985; O’ Connor, Berry, Morrison, & Brown, 1995; Tarter, 1988). Literature has specifically mentioned that individual addicted to drug possesses certain personality traits such as neuroticism, impulsivity and extroversion (Graham & Strenger, 1998; McGue, 1999; Liraud & Verdoux, 2000; Fisher, Stoolmiller, Gunnar, & Burraston, 2007). In the above perspective, Eysenck (1957) revealed that negative effect of drug addiction on an individual’s particular

behaviour is the result of some specific personality factors that includes introversion, extroversion and neuroticism. Khan and Salman (2003) reported that the personality profile of drug addicts embraces concrete thinking, submissiveness, emotional unstableness, suspiciousness, tender mind, apprehensive and uncontrollable behaviour. There are some common personality traits that are prevalent among drug abusers that show a low score on self-satisfaction, well-being, feeling of loneliness and isolation. They lack cultural demands, put lesser efforts in group undertaking, and usually they indulge themselves in acts that are antisocial in nature (Craig, 1979; Stein et al., 1983; Gautam et al., 1991 (as cited in Khan & Salman, 2003). The results of number of studies have shown high scores in different dimension of personality including neuroticism, psychoticism and extroversion among drug addicts. A study conducted by Thomas (1975) found high scores on extroversion and neuroticism dimensions of personality among drug users. Whereas, Sher, Bartholow, and Wood (2000) found high scores in psychoticism and neuroticism dimensions among drug addicts. The findings of various other studies showed that psychoticism is higher as compared to extroversion among drug addicts (Mirin, Weiss, Griffin, & Michael, 1991; Bukhtawer, Muhammad, & Iqbal, 2014). Khan and Sharma (2003) revealed that high value in neuroticism is due to alcohol or drug addiction, which results in serious ramifications. They also examined that high scores in neuroticism and extroversion indicate negative feeling, assertiveness, emotional instability, group orientation and excitement seeking. Matthews and Deary (1983) suggested that neuroticism is a fundamental characteristic in psychology, manifested by traits of moodiness, anxiety, envy, worry and jealousy. This is considered as a risk factor for various multiple internal mental disorders such as depression, phobia, anxiety and panic (Hettema, Neale, Myers, Prescott, & Kendler, 2006). Coasta and McCrae (1992) defined extroversion as the combination of gregariousness, assertiveness, activity, excitement seeking and positive emotions. Eysenck and Eysenck (1975) in their manual entitle 'Eysenck Personality Questionnaire' presented psychoticism as an independent dimension which describes the personality as solitary, troublesome, cruel, lack in feelings of empathy, hostile to others, sensation seeking and liking odd and unusual things. They refer neuroticism as a general emotional stability of a person, his emotional ability to over responsiveness and his ability to neurotic breakdown under stress. They specified extroversion as opposed to introversion that refers to the inhibited outgoing and social proclivities of a person. Additionally, these

three dimensions are conceived of as being quite independent, though all the theoretically possible combinations of scores may in fact be observed. However, it is complex to understand the dynamics of personality with drug abuse as there is a probability that it may vary under different conditions along with choices of drugs, its intensity level and frequency intake. Drug addiction may be considered as the result of the intersection between products, drugs, environmental factors, educational factors and those configuring the intimate structure of personality.

1.8 Yoga

Yoga is an art as well as science having plethora of amenities under its prevalence. It means sense of a harmonious relationship between our different aspects. “The word yoga is derived from Sanskrit word ‘Yuj’ meaning ‘to unite’, ‘to combine’, and ‘to integrate’, which determines total integration of the physical, mental, intellectual and spiritual aspects of the human personality” (Goel, 2007). It is a boon, having illustrious features to provide a healthy and safe life among the people. As per Maguire (2005) yoga is the ancient system of the personal development of mind, body and spirit, which can surpass many adherents. It offers not only the muscle sought way but also a philosophy of unrivalled profundity. Practicing yoga is unthinkable and would be ineffectual too without the implementation of ideas on which it is based. In yoga, spiritual and physical exercise works together in a complete extraordinary manner (Jung, 1978). Union of body, mind and soul give rise to total completion of the physical, mental, emotional and spirituality of oneself and all these are multiple amenities of yoga, practicing of yoga leads to a total balance and harmony of oneself with others and their surrounding environment. Singh (2016a) observed that yoga therapy has got higher status in our daily life, because of the facts that neither it has any side effect and nor it is costly. The art of yoga is ancient, purely originated in India which has spread worldwide. In yoga some practices puts greater emphasis on physical postures than on meditation or breathing while as some focused more on meditative and philosophical domains. Yoga comprises of physical activity that give a complete exercise to the whole body as it incorporates various aspects of philosophy, art and science. It is a matter of concern to improvise quality of life among people, yoga improves quality of life and decreases depression (Erik, Deepak, & Paul, 2015). According to Woodyard (2011) the hindu philosophy of yoga is based on the eight limbs of ashtang yoga, comprised of yamas (ethical disciplines), niyamas (individual

observances), asana (posture), pranayama (breath control), pratyahara (withdrawal of senses), dharana (concentration), dhyana (meditation), and samadhi (self realization or enlightenment). These eight limbs are comprised of ethical principles for living a meaningful and purposeful life; serving as a prescription for moral and ethical conduct and self discipline, they direct attention towards one's health while acknowledging the spiritual aspects of one's nature. It is a fact that none of the countries can achieve a noticeable success without the fitness of their people. Yoga is one of the most important recognised heritages of India. It is among the most ancient yet vibrant living traditions that is gaining popularity. All over the major medical centers and community health centers induces yoga as a practice for complete well being of person. As per Dangerfield, 2009; Macey (2008), (as cited in Cramer, Lauche, & Dobos, 2014) worldwide, 30 million people practiced yoga regularly, whereas 6% population of United States of America reported that their physician or therapist had recommended yoga to them for improving health. Yoga developed and refined by philosophers mystics over the centuries. In our country yoga is considered as a specialised appropriate therapy to treat patients. To this notion, Devi, Singh and Subramanya (2015) revealed out in their study that practicing yoga can assist in catharsis of depression and in improving quality of life among drug abuser. Additionally, yoga practice from early age assist the prevention of number of disorders and diseases that take place during the latter years of life. Yoga practice is a pragmatic documented boon to enhance immunity in oneself. Yoga stabilizes and neutralize plethora of energy in children. It is important to utilize and direct the abundance of energy that children possess, this provide a protective cover to them from unhealthy pursuits of their lifestyles. "Transformative life skills includes yoga asana, multiple breathing techniques and meditation that reduces perceived level of stress, anxiety and improves self awareness, self control and self resilience among children" (Ramadoss & Bose, 2010). Children's engaged time table make them vulnerable in term of stress, anger, depression, alienation, tension, high rate of impulsivity, high aggression level that let them inevitable in the drug addiction, so this can be deal with some unique strategies and for that yoga can be a sophisticated tool to deal overwhelmingly with it. Duncombe, Komorosky, Wong-Kim, and Turner (2005) findings showed that yoga reduces depression and improves physical and mental wellness.

Drug addicts indulge themselves in delinquent behaviour and most often recidivism and their intrusive thoughts are the prime reason of their aggressive and criminal behaviour. This is why they are not cohesive among with their mates and society, thus leaving themselves alienated from various section of this society. Thus by practices of multiple elements of yoga purification and strengthening of the mind and body could be achieved successfully. Yoga including meditation is the best way to gain self healing and inner peace, so recommended as method to gain compassion.

1.9 Sports

Socialization is a complex development learning process that teaches the knowledge, value and norms essential for participation in social life. In earliest beginning, man was an integral part of nature and even today his behaviour reveals strong parallels with that of animals. These parallels can be seen in many of his game involving movements. The specific evolution of man and of human society, however led him to develop his instinctive games and create new forms of them, one of which grew into modern sport (Sharma, 2004). Sport is a physical activity governed by a set of customs and rules involving physical exertion and skill in which an individual or team competes with each other for winning. “Sports are institutionalized competitive activities that involves vigorous physical exertion or the use of relatively complex physical skills by individuals, whose participation is motivated by a combination of personal enjoyment and external rewards” (Coakley & Jay, 1998). Sport is seen as the domain of fair play in which opportunity is said to be open to all. Yet throughout the modern history sports participation and its meaning have been differentiated and diverse, rooted in social inequalities and divisions. “Sport has been developed and sustained in a modern society characterized by deeply embedded forms of social stratification, primary source of stratification in sports is social class, gender and ethnicity” (Horne, Tomlinson, & Whannel, 1999). Sport has been a part of civilized societies throughout the history. “Olympic games throughout the world foreshadow the development of a global sport culture that knows no boundaries of race, gender, ethnicity or age” (Siedentop, 2007). Further, competition is considered as an integral part of the sports and is considered as the battle between two teams to achieve rewards and prestige. Every person takes competition seriously and wants to win it for their team. According to Frank (2003) “The win at all cost seems to be steam rolling through the world of sport at every level”.

Regarding the beneficial effect of physical activity there is relatively less research contributing to the benefits of sport participation with regard to social and mental health. Thus, it is recommended that sport participation association with psychosocial health requires to be further investigated (Eime, Young, Harvey, Charity, & Payne, 2013). Bartko and Eccles (2003) reported that participants involved in structured activities including sports are linked to higher positive functioning. Theokas (2009) specified that structured sports activities involve certain implementation of rules during the engagement. These rules vary in individual and team oriented sports, with demonstration of different skills and competencies dominated by various types of strength, speed and dexterity so as to perform effectively. Harrison (2003) alleged that sports alone as well as in integration with other activities were linked with a significant increase in terms of health outcomes including a higher self image and a decrease risk of suicidal behaviour, emotional distress and substance abuse. Participation across multiple sports and in various development programme yielded a positive development in youth (Zarrett et al., 2009). In a cross sectional study conducted at high school students of United States, specified that team sports participation was associated with low level of general risk taking, fewer health issues and general health problems in comparison to non-participants (Steiner, McQuivey, Pavelski, Pitts, & Kraemer, 2000). A sports practice provides an opportunity for exercise that shapes and tone up the health of the children. Participation in sports improvises social skills, emotional skills, cognitive power and a healthy growth of bones, muscles, ligaments and tendon. In a longitudinal study spanning over 12 years it has been found that team sport participation was allied with lesser social isolation in later stages of life, comparatively to other categorized activities as arts, pro-social and school based (Barber, Eccles, & Stone, 2001). Contrary to this there are few studies that have reported an inverse relationship between sport participation and loneliness (Page, Frey, Talbert, & Falk, 1992). However, channels underlying this relationship have not completely understood. Sports participation may prevent or reduce loneliness by improving perceptiveness of social competence elicited by social recognition, good peer relationship, learning of social skills and a feeling to connect with each other (Haugen, Safvenbom, & Ommundsen, 2013). Thus, it is important to consider social context aspects of sport participation (Goosens & Beyers, 2002). Sports participation creates opportunities for friendship and improves cohesion among peers (Fletcher, Nickerson, & Wright, 2003) this develops social self perfection

(Hartner, 1999) and decreases loneliness feeling (Page et al., 1992). Individual experiences intimate friendship, good peer relationship, sense of belongingness by means of participation in organised sports activity (Bohnert, Aikins, & Edidin, 2007). Hence a satisfactory life of social domain is reflected among peers through a positive social relationship (Hymel, Rubin, Rowden, & LeMare, 1990; Parker & Asher, 1987). Haugen et al. (2013) consider sports as an intervention opportunity to prevent and reduce feeling of loneliness among adolescents. Galanaki and Vassilopoulou (2007) have recommended social skill training and improvement in self esteem as strategies for preventing loneliness of young peoples.

According to Leblane and Dickson (as cited in Dorak, Yildiz & Sortulla, 2012) if children are provided conducive environment for getting engaged in sports, they will also prefer to get themselves involved in sports rather than doing anything else. Children acquire social behaviours by participating in organized sports environment and this ensures they stay away from anti social activities (Rutten et al., 2007). Sports participation open ample opportunities for social interaction and cohesiveness that fosters positive mental health (Brunet et al., 2013). Well being and positive mental health was reported more among sportsperson as comparison to non sportsperson (Eime et al., 2013). As per Dorak et al. (2012) sports participation especially during the childhood are of greater importance for rising the upcoming generations. They supported sports as of immense importance for physical as well as psychological development of children. Furthermore, exercise and physical activity participation has shown positive outcomes in terms of psychological well being (Fox, 1999; Saxena, Van Ommeren, Tang, & Armstrong, 2005).

Athletes also had reported a higher well being level, involving a better adjustment ability, low level of anxiousness, feeling energetic and happy about life and a low level of sad and depressed feeling with a fewer attempts of suicide (Ferron, Narring, Cauderay, & Michaud, 1999). Athletes have shown higher scores on general health, physical functioning, mental health and social functioning in comparison to non athletes (Snyder et al., 2010). Marsh and Kleitman (2003) stated research has indicated the potential of participation in sports resulting in the development of functioning across various domains including social, physical and psychological. Sport activities provide an active platform for children subsequently leading towards the development of physical and mental health (Dorak et al., 2012). Nichols (1997)

reviewed evidence contributing in the management of crime, it was observed that the effectiveness of sport and leisure activity in reducing crime has little evidence. Though sports acts as a panacea for offenders by diverting their propensity from crime, in this regard Coalter, 1988; Taylor et al, 1999; West and Crompton (2001), (as cited in Ehansi, 2012) emphasis on sports programmes for reducing recidivism and rehabilitate offenders. These programmes include oftenly active outdoor sports activity aimed in improving personnel skills, social skills, self sufficiency and self confidence. It is believed that such sports programmes can counters offending behaviour.

1.10 Recreational Activity

The meaning of the recreation varies from individual to individual perception. Recreation for some individuals involves gardening, listening songs, dancing, going into the park, writing article, stories and whatever else one chooses. Recreation is something that rejuvenates and reactivates the body and mind. Freedom, euphoria, joyness are the attributes of the recreational activities, it provide immediate pleasurable satisfaction to the individual, who participate voluntary. Recreation involves activities that have fun and joyness. Author do get sometimes confused in stating that what to name these types of experiences. Should we call this recreation, activity, leisure, time pass, free time, creativity or anything else? Kleiber and Nimrod (2009) defined leisure activities as preferred and enjoyable activities participated in during one's free time. After getting engaged with tiring life routines, one requires relaxing, refreshing and recharging of the body and mind, which can be achieved through recreation. Recreation as we have seen, contribute to the satisfaction of some basic human needs like the need for change of activity, for relaxation and recuperation after work for recognition and for creative achievement which promote individual and therefore, social wellbeing. "In both its creative and recreative aspects, recreation is beneficial to society, firstly by enriching the culture of a group and secondly by paving way for a mentally and physically healthier society" (Jain, 2003). Recreation is active, passive, outdoor as well as indoor. A good recreation programme should have a variety of active and passive activities. Games hiking, sports, trekking, mountaineering, dancing are considered as active recreation that rejuvenates energy in our body, thus bringing enthusiasm and joyness overwhelmingly in one's life. Outdoor physical activity brings more positive results on measure of mental well

being comparatively to indoor physical activity among participants (Skara et al., 2008). Passive recreation includes singing, playing trump card and reading novels. Indoor recreation takes place inside gymnasium, auditorium, indoor stadium or even inside a room. Outdoor recreation are performed under an open environment, utmost benefits are achieved in terms of complete wellbeing for a person through active recreation activity. Furthermore, participation in multiple forms of activity lowers rate of substance use in children (Sharp, Tucker, Baril, Van-Gundy, & Rebellon, 2015).

Recreation has fascinated human being since the ancient times. In this contemporary world recreation constitutes an important aspect in shaping our health and fitness. It adds a value in the form of social cohesiveness. As per Cohen (2004) recreational activity among the children creates cohesiveness within them and moulds their personality socially well being. A narrowing social structure may result in the deterioration of the health in later years of the adulthood while as individual with good social relationship had an improved psychological well being and physical health. Chen and Feeley (2013) examined social relationship and well being, concluding further that a high graph of social support improves well being. Adams, Leibbrandt and Moon (2011) stated that social activities that are informal give beneficial results to the well being most. The participants also get benefited in terms of physical, mental and emotional aspects. As the person grows older their physical, cognitive function ability and sociability also declines (Chen & Feeley, 2013). It is important to create a sound base from the early ages for creating a healthy society. Recreation can be enjoyed individually as well as along with the other participants also. Long (1983) asserted that children's negative behaviour has a worse impact on their health. A sport based recreational activity participation helps to overcome these negative feeling and improves relaxation along with anxiety and stress free mind. Physical activity had a direct link with neurological basis, participation in physical activity releases endorphins and dopamine in the blood which in return is associated with euphoria and positive mood status (Casper 1993 as cited in Coleman, Hendry, & Kloep, 2007). Regular practices of physical activity have a positive impact on long and good quality of life with reduced risk of diseases and many psychological benefits. Leisure activities play a vital role in the lifestyles of the society. Recreation comprises of various number of activities that are relaxing and entertaining in nature that are done voluntary during the spare time by the individuals and social group

(Karakacuk, 2008). Participants engaged in recreational activities are endowed with a low level of nervousness, enhanced ability to acclimatize in new condition and an improved psychological well being. Thus these activities are used as treatment methods in various psychiatric rehabilitation programmes. Continuity in physical activity improves psychological well being and cognitive health through out the life span (Von- Bonsdorff et al., 2009). Thus, individuals which are physically active have better self perception level in comparison to the sedentary individuals (Fox, 2000). McAuley (1994) highlighted the relationship of exercise with positive and negative psychological health, it was founded that exercise and psychological well being had a positive correlation with psychological well being, self esteem, self efficacy and cognitive functioning. It is vital that children pent up their emotions through a proper avenue. Recreational activity can play its major role in this by eliciting their emotions thus preventing them from being deviant, thus developing a conscience social behaviour. The emphasis should be given in the participation of children in structure leisure activities that is linked to low level of antisocial behaviour. Participants engaged in organized leisure time activity are less prone to get involved in risky behaviour involving delinquency and substance abuse (Farb & Matjasko, 2012; Riese, Gjelsvik, & Ranney, 2015). Also, Youth engaged in unstructured activities have deviant peer relationship, poor child parent relations and low support from the activity leader as compared to youth engaged in more structured activity (Mahoney & Stattin, 2000). Youth are more influenced to anti social behaviour when engaged in unstructured leisure activities comparatively to highly structured activities (Osgood, Wilson, O'Malley, Bachman, & Johnston, 1996). Further, Nelson and Gastic (2009) also specified that youth engaged in unstructured leisure time have higher level of truancy rate. According to Mahoney and Stattin (2000) there are some form of leisure activity that are linked to antisocial behaviour that possesses highly aggressive behaviour, drug abuse, school dropout, disobedient and criminal propensity. Engagement in the organized leisure time activity showed a low repeated use of substance and truancy but inversely higher odds in case of injuries and physical fights (Badura et al., 2017). Highly structured leisure activity features continuity in participation, rule guidance implications, direction under the influence of adult leader and emphasis on skill development with an increased intensity of complexity along with the challenges and precise feedback of the performance (Csikszentmihalyi & Csikszentmihalyi, 1988; Csikszentmihalyi, 1990). According to González and Viuda

(2010) participation in activities is noted as a remarkable attempt for increasing cohesiveness among each other, while spending their leisure hours by being engaged in exercise can eliminate loneliness. Also, Cavill, Kahlmeier and Racioppi (2006) stated that physical activity benefits by lowering level of crime and antisocial behaviour, it also improves healthy behaviours and social integration.

The recreation leader should explain and if possible should demonstrate the whole activity also. The leader should keep certain points in mind before the start of recreational activity. The activity should be appropriately programmed along with the feasibility of the equipments to be used during the play. A practical demonstration of the activity should be given to the subjects along with the brief explanation of the signals that are going to be used during the play. The activity should be interesting in nature so that everyone participates in it actively. Overlook minor mistakes that are committed by the participants during the play, remember there is no need to have strict implementation of the rules and regulations during the play and also don't try to be perfect while conducting the activity. Every individual should be encouraged for participating in the activity. Familiar subjects with the term that are going to be used later in the play. Everything needs to be cleaned up following a recreational activity. Learn from the experiences that you gain during the activity so that you can refine the activity next time. A physical safety check up is required before the start of activity. Inspection of field, room and equipment should be done before the start of recreational activity.

1.11 Significance of the Study

In modern time drug abuse and crime are issues of serious concern through out the world, and it is a menace with which all sections of the society have to deal with. The present study has emphasised on the preventions against this social evil and is based on different treatment programmes including (yoga, sports, recreational activity and composite treatment programme) for the management of criminal propensity, aggression, psychological well being, loneliness and personality among drug addicts. It has also observed the mechanism which increases criminal propensity, aggression and loneliness behaviour among drug addicts, thus, it supplements the already existing literature regarding drug addicts, crime and their mode of behaviour. In the present study a standardised tool for the measurement of criminal propensity among drug addicts has been developed, which was not done in previous research works.

This tool has improvised the validity and reliability of this research work and can be pragmatically applied for the assessment of criminal propensity among drug addicts, childrens, students and adults between 16 to 50 years of age group.

This study proved to be effective for the management of criminal propensity, aggression and loneliness among drug addicts. Specifically, sports have been proved as the most significant treatment programme for the management of criminal propensity and loneliness. Sports activities such as karate, taekwondo, judo, boxing and other different combat activities are aggressive in nature, as the players have to come in physical contact during the play. Thus, present study has included only those sports activities that are not combat in nature, thus leading to the prevention of outburst of physical aggression. It has also included selected teams sports involving (basketball, volleyball, tennis ball cricket, handball and badminton) in the sports treatment programme. Team sports have proved to be beneficial in the improvement of cohesion among mates, which was one of the reasons to include these activities in the treatment programme. Besides sports, yoga and composite treatment programme were also found to be effective in reducing criminal propensity and loneliness among drug addicts.

The present study has incorporated a different composite treatment programme comprising of selected activities of yoga, sports and recreational activity. This is the first such kind of work that has taken into consideration composite treatment programme with regard to various psychological variables, out of which it has shown significant results for the management of aggression among drug addicts. Besides this yoga and sports treatment programmes were also found to be effective in reducing aggression level of the drug addicts. Thus, implementation of different treatment programme comprising yoga, sports and recreational activity after an overhunt has procure with astonishing results for a better quality of life of drug addicts.

1.12 Statement of the Problem

Drug abuse had spread epidemically in the 21st century (MaCneil et al., 2000). According to report of (United Nations Office on Drugs and Crime [UNODC], 2010) 5 % of the global population used an illicit drug. Death toll due to cocaine, heroin and other drug is 0.1 to 0.2 million per year. According to world drug report 2017, premature death due to drugs was approximately 190,000. Globally quarter of billion

people of adult population used drug at least once in 2015, more worrisome fact is that 29.5 million of those drug abuser suffer from drug use disorder (UNODC, 2017). In addition, a total 70% of the diseases were attributable to opioids use. The menace of drug abuse is worst in Punjab. In 2015, a study was commissioned by the Ministry of Social Justice and Empowerment (MoSJE), Government of India, which reported 2,32,856 persons in the state of Punjab are drug users, out of which 99% are males. One more interesting fact comes out from that study which revealed, more than 80% of these drug users tried to give up drug, but unfortunately only 30% were able to receive help or treatment. In fact, experts observed health and welfare programmes do not reach millions of people affected by drugs (Phukan, 2017). The consumption of opiates is thrice in Punjab as per national average report (Singh, 2010). There are approximately two lakh intravenous drug abusers in India, Punjab counts 26.1% out of that total (National AIDS Control Organization [NACO], 2012). Furthermore, heroin is the most common drug consumed in this state (Phukan, 2017). Drug proliferate crime, regarding this notion Mumola (1999) reported that 60 to 80% of crime is related to drug. Furthermore, Singh (2011) asserted that drug users are involved in crime and possess traits that predispose them towards criminal propensity. Keeping all this in mind the investigator has selected yoga, sports and recreational activity based programme as a panacea for this problem. The problem is entitled as **“Management of Criminal Propensity Among Drug Addicts Through Yoga, Sports and Recreational Activity”**.

1.13 Objectives of the Study

- [1] To assess the impact of selected training programme in yoga, sports, recreational activity, composite and control group for managing criminal propensity among drug addicts.
- [2] To examine the impact of selected training programme in yoga, sports, recreational activity, composite and control group for managing aggression among drug addicts.
- [3] To analyze the impact of selected training programme in yoga, sports, recreational activity, composite and control group for managing loneliness among drug addicts.

- [4] To study the impact of selected training programme in yoga, sports, recreational activity, composite and control group for managing psychological well being among drug addicts.
- [5] To find out the impact of selected training programme in yoga, sports, recreational activity, composite and control group for managing personality among drug addicts.

1.14 Hypotheses of the Study

- [1] **H₍₁₎** : There exists a significant difference in the selected training programme in yoga, sports, recreational activity, composite and control group for managing criminal propensity among drug addicts.
- [2] **H₍₂₎** : There exists a significant difference in the selected training programme in yoga, sports, recreational activity, composite and control group for managing aggression among drug addicts.
- [3] **H₍₃₎** : There exists a significant difference in the selected training programme in yoga, sports, recreational activity, composite and control group for managing loneliness among drug addicts.
- [4] **H₍₄₎** : There exists a significant difference in the selected training programme in yoga, sports, recreational activity, composite and control group for managing psychological well being among drug addicts.
- [5] **H₍₅₎** : There exists a significant difference in the selected training programme in yoga, sports, recreational activity, composite and control group for managing personality among drug addicts.

1.15 Limitations of the Study

- [1] There are limitations in question based research. The response given by the subjects may be influenced or biased.
- [2] The regular routine activity of the subjects in the drug rehabilitation center was not under the control of the investigator.
- [3] The subjects were not allowed to go outside drug rehabilitation centers. Thus the investigators have utilized the available area of the rehabilitation centers for implementation of different training programme.

- [4] The play field area in the drug rehabilitation center was not as big as required to conduct sport viz; tennis ball cricket, football and handball. Thus while conducting these sports the measurement area of the play field was marked as per the feasibility of the area.
- [5] The secrecy of the subjects cannot be violated, thus no cameras were allowed to take pictures and make videos of the subjects.
- [6] The duration of addiction to drug varied from individual to individual in drug rehabilitation centers, thus this was considered as one of the limitation in present study.
- [7] The subjects were not bounded to any time period for their stay in the drug rehabilitation centers.

1.16 Delimitations of the Study

- [1] The present study was delimited to male drug addicts in three drug rehabilitation centers from Jalandhar district.
- [2] A total of 50 samples, between 16 to 35 years of age group were selected in the present study.
- [3] The study was delimited to four experimental group and one controlled group.
- [4] The training programmes comprises of yoga, sports, recreational activity and composite has been design as per the nature of drug addicts, so selected activity of this programme was imparted.
- [5] The dependent variable was delimited to criminal propensity, aggression, loneliness, psychological well being and personality for the present study.
- [6] The duration of the different training programme was set of 1 hour for each programme, although sometimes as the activity continued the duration was extended upto 10 to 15 minutes.

1.17 Operational Definitions of the Terms

- [1] Drug Addicts: Person who is addicted to some kind of drug, thus receiving rehabilitation programme in the drug addiction rehabilitation center to get drug free.
- [2] Criminal Propensity: It is the prevalence of criminal behaviour among drug addicts.

- [3] Aggression: Feeling of anger resulting in hostile or violent behaviour among drug addicts.
- [4] Loneliness: It is an unpleasant experience that occurs when a person's network of social relations is deficient in some important way.
- [5] Psychological Well Being: Well being state of the drug addicts.
- [6] Personality: Sum of the selected traits that the drug addicts possess.
- [7] Yoga Programme: It is a systematic pattern of yogic activities involving selected asana, pranayama and dhyana to achieve control over the mind and body.
- [8] Sport: It is a physical activity governed by a set of customs and rules involving physical exertion and skill in which an individual or team competes with each other for winning.
- [9] Recreational activity: It is the sum of enjoyable activities that rejuvenates and reactivates the mind of an individual.
- [10] Composite Programme: It is a mixture of selected yoga, sports and recreational activities.
- [11] Control group: A group that was not exposed to any sort of training programme.

CHAPTER 2

REVIEW OF RELATED LITERATURE

2.1 Review of Literature

This chapter discusses about the review of existing literature on drug addicts, their behaviour, personality, psychological health and benefits of practicing yoga and getting involved in sports and recreational activity from books, articles, conference proceedings, dissertation and other important sources relevant to the current study, which precise a clear background on what has been explored so far on the topic. To update the need of the present study, the research gap in the previous studies were identified through a comprehensive literature review, which provides a lucid understanding of the study undertaken. Extent review of literature has been further categorized as follows:

- 2.1.1 Reviews on drug addicts
- 2.1.2 Reviews on yoga
- 2.1.3 Reviews on sports
- 2.1.4 Reviews on recreational activity

2.1.1 Reviews on Drug Addicts

Singh (2016b) suggested that addiction is a severe relapsing diseases characterised by compulsive drug seeking perpetuate abuse and chemical changes occurring in the brain. Drug addiction among youth is a global problem and progress in development program need to be excelled for restraining this obscure. The findings of the study revealed that mental health among drug addicts is poor and their attitude towards crime is between moderate to favorable level. Illicit drug abuse and crime are the different facets of the same coin and their relationship is regarded as cause and effect, which states that the use of drugs propels individual into criminal activity. Practising yoga programme had proved to be beneficial among drug addicts. Yoga is impeccable and can elucidate its optimism potentiality regarding the management of poor mental health.

Singh et al. (2016) proposed a study on 66 drug abuser, out of which 98.4% was male. The study reported 87.8% heroin dependency rate among subjects, while as 73% of

the subjects were booked under (Narcotic Drugs and Psychotropic Act, 1985) and 47% were intravenous drug abuser.

Tomlinson, Brown, and Hoaken (2016) in a study concluded that drug users are linked frequently with human aggressive behaviour. Over the past decade comprehensive reviews on their link up have been studied. This study summarised the literature regarding human aggressive behaviour and various drugs. The result shows a casual unequivocal relationship between aggression and alcohol. Studies examined heroin and cocaine to be associated strongly with aggressive behaviour. It had also highlighted evidence regarding the increase in aggressive behaviour due to methamphetamine withdraw.

Hosseini et al. (2014) conducted a cross sectional survey on 228 individuals, out of which 116 were drug abusers and 110 were non-substance depended individuals. The results of the study showed a statistically significant difference in emotional loneliness between drug abusers and non-drug abusers. Further, result showed that loneliness was stronger among drug abusers in comparison to non-drug abusers, this may develop a feeling of being different from other community and increases the chance of high risk behaviour and drug abuse. On the basis of above conclusion it was further recommended to take feeling of loneliness into consideration in future programme designed for the prevention and treatment of drug addiction.

Kalva and Bansal (2012) observed socio demographic profile and pattern of drug abuse among patients of de-addiction center in rural areas of Punjab that has witnessed a gigantic increase in substance abuse. It is very important to look at the present trends and pattern of drug abuse to counter it by means of more effective intervention programmes. A study was conducted on 200 samples present at de-addiction center for seeking treatment. The findings reported that bhukki (84.5%) has the highest percentage of substance abuse. The mean consumption of bhukki by a single person was 2.453 Kg per month. This is supplied in Punjab mostly from Rajasthan and Madhya Pradesh. This was followed by tablet lamotil 25% and alcohol 19% whereas 7.5% of the total samples were found abusing four class of substance.

Singh (2012) reported that drugs like smack, heroin and cocaine are reportedly being smuggled inside jails, peddlers and the couriers are the source of delivery of these drugs. It is calculated that out of 18000 inmates in various prison across Punjab, 70%

are booked for the use of illicit drugs and a high number of them are under the influence proportion of HIV positive (Human Immuno deficiency Virus).

Shirazi et al. (2011) carried study on 172 drug abusers with 32 year of mean age group. The findings specified that frustration, anxiety and loneliness are the most predominant psychological problems among drug abusers. According to the results 68.8% of drug abusers suffer from depression, 54.4% shows aggression and 26.3% of subjects have experienced ideas that are suicidal in nature because of their loneliness and frustration.

Mahi, Sharma, and Sidhu (2011) conducted a survey in Chhajli village of district Sangrur from Punjab. The prevalence of substance abuse was 39.30% in this rural area, out of which 32.1 % population was a single substance abuse, two substance abuse was 4.9%, three substance abuse was 1.3% and four substance abuse was 3.7% from the total survey population. The mean age of onset of substance abuse was between 15 to 24 years. The duration of substance abuse for alcohol and opioids was 6 to 10 years respectively.

Skara et al. (2010) investigated a longitudinal relationship between physical and relational aggression as predictors of drug abuse (cigarette, alcohol, marijuana and hard drug abuse). A pre-test was conducted followed by one year post-test, self reported data was gathered among a sample of 2064 high school students. The results indicate that out of the four drug use outcomes, p-value ($p < .01$) supported statically as physical aggression estimates alcohol use only, however this section of result was limited to males only. The findings also revealed that the effect of relational aggression on later drug abuse was significant for females only in two drugs (cigarette use $p < .05$ and marijuana use ($p < .01$). In addition, relational aggression found to predict alcohol and hard drug use with similar strength for different genders.

Fridell, Hesse, Jaeger, and Kuhlhorn (2008) carried a longitudinal study on 1052 drug abusers. The findings revealed that all samples were convicted for crime at least once in their life. They also observed that person with anti social personality disorder are more prone towards crime. This should be taken very seriously in case of drug addicts so that they can be targeted during treatment period to prevent society from crime. Stimulants such as amphetamine are also associated with crime. The stimulants increase impulsivity, aggression and may lead to impaired judgment too. Substance

abusers diverse substantially both in the propend and the pattern of crime that they commit.

Valdez, Kaplan, and Curtis (2007) proposed that drug use, alcohol consumption and violent crime are closely associated with each other. Recently direct measure of this relationship was observed using quantitative data. It was also observed that crime is directly related to poverty, a higher level of poverty leads to a higher aggressive nature of crime.

Rokach (2005) examined influence of drug cessation while coping with loneliness. A total of 304 volunteers reflected their experiences related to their loneliness and the manner in which they coped with it. Drug abusers in detox centers, were compared to drug abusers that participated in maintenance programme of methadone, while as both of these groups were compared to adult group that were non users of drugs from the general population. Results showed significant differences among the three groups in the manner they cope with loneliness. Furthermore, drug users in detox centers cope differently with the experiences of loneliness comparatively to the general population.

Newbury-Birch, White, and Kamali (2000) evaluated personality, illicit drug use and some life style measures among 194 medical students. The findings of the study showed that 45% of the subjects reported alcohol consumption above the prescribed limit approved by United Kingdom Government. The intake of Cannabis was frequent among the subjects and a positive significant relationship was observed of alcohol consumption with physical fights and disobedient nature among the subjects.

Murdoch, Pihl, and Ross (1990) in an extreme review of 26 studies connecting 11 nations, found that 62 % of offenders convicted to violent crime had consume alcohol just shortly before committing the crime.

Deitch, Koutsenok, and Ruiz (2000) mentioned that criminogenic addicts have psychiatric disorders but instead of this why society is keen for treatment of these hopeless criminogenic addicts if they will recidivate again after their release and once again will end incarcerated. Substance abuse and delinquent behaviour in early adolescence leads to criminal behaviour in adult period as well. The crime and drug abuse shows an intimate connection. A high rate of crime is perpetrated by the abuse of drugs and an unusual increase in the level of recidivism by substance abusing criminals.

2.1.2 Reviews on Yoga

As per Muirhead and Fortune (2016) yoga practice is rising rapidly worldwide in various correctional institutions. In spite of the rising alarm of practising yoga there has not been a refined high class of research work outlining numerous beneficial outcomes to incarcerate youth. This study remarked the pros and cons of the already existing literature and highlighted the role of yoga practice in rehabilitation efforts for offenders. It has shown improvements in variables like attention, emotional regulation and depression that aim to reduce criminal propensity. The study recommended that considering the potentiality of yoga as rehabilitative endeavors more robust research studies are required for this purpose.

Singh (2016f) revealed that the amount of quantitative and qualitative research in yoga has increased dramatically over the last couple of decades. It has been specialised in practising of yoga for treatment of various diseases. The main purpose of the study was to review the benefits of yoga regarding physical and mental health of an individual. Results found that practising yoga leads to healthy physical and mental aspects of a person.

As per Singh (2016a) yoga is a boon, having illustrious amenity to provide a safe and a healthy life among people. The ultimate aim of yoga is self-identity and self-perfection. The art of yoga has purely originated in India and now has been spread all over the world. Yoga equalises and stabilises the influx of energy within the child. It is vital to have a proper utilisation as well as direction of the abundance of energy that the children possess, so that they don't indulge themselves in the unhealthy pursuits of daily-life routines. Criminal propensity among children is common now a day, so it is very important to create a mental balance among the youth. It can be achieved by practising yoga in a daily routine manner. This, prevents them from being involved in any sort of criminal activity. Practising yoga creates a positive feeling and eliminates negative thoughts. It purifies our mind and improves our physiological as well as physical aspects. Yoga develops the personality of a person. Children or people who practice yoga enjoy a stress free life. Results of the study demonstrate that practice of yoga leads to downfall in level of criminal propensity among people. Also, youth that practice yoga has low level of criminal propensity.

Singh (2016g) mentioned that children are strength of a nation. Their physical, intellectual, social and spirituality can be developed upto their fullest potential if nurtured with care and attention. Their activity need to be organised and supervised. A child without supervision can indulge himself in a wrong company and this can make children vulnerable toward delinquency. Illiteracy, conflicts between maternal parents, economic crises, high level of impulsivity, aggression, stress and intellectual weakness are some of the causes that led to delinquency among children. Yoga can surpass many of these adherents. It offers not only the toning of muscles but also a philosophy of unrivalled profundity. Yoga stabilises the mind for the union of body and soul as this helps in integrating mental, physical, emotional and spiritual aspects of an individual thus develop a total balance and harmony with others.

Devi et al. (2015) has evaluated yoga efficacy for countering depression and improving the quality of drug abusers life. The sample size in the study was 66 male drug abusers between the age group of 18 to 40 years distributed randomly in the yoga group and control group. The experimental group underwent through a yoga intervention programme of four weeks (i.e. 6 days in a week) whereas control group went through their normal daily life routine activities. The results declared a significant reduction in depression score and marked an improvement in quality of life among the yoga intervention group as compared to the control group. This study found yoga efficacy beneficial for reducing depression level and to improve the quality of drug abusers life.

Devi (2013a) conducted a study in which 30 subjects participated in yoga training programme for a period of 3 months. The data was collected on psychological variables before and after implementation of the training programme. The results propounded that yoga practitioner had shown significant changes in social dysfunction, anxiety, insomnia and severe depression.

Khanna and Greeson (2013) asserted that yoga and mindfulness as complimentary therapies for drug addiction. Addiction arises because of mindless states that involve escapist attitudes, emotional reactivity, automatic thinking and social isolation. The practice of yoga asana, meditation and pranayama can regulate stress and unhook substance use movement impulses. The findings of the study showed that mindfulness-based intervention and yoga have rising empirical support and conceptual underpinning for the prevention and rehabilitation of drug addiction.

Mathew, Prathap, and Jagatheesan (2013) conducted a pilot study in a drug rehabilitation center at Bangalore. Randomization of the samples was equally assigned into control group and experimental group. The control group received therapy as per conventional drug rehabilitation programme of the center and experimental group received yoga therapy programme that included asana, suryanamaskar, kapalbhati, pranayama, and meditation. The programme was implemented for 6 weeks, in addition to center routine activity. Regular practice of yoga fabricates mind with clarity, calmness, enhance body awareness, leads to catharsis of stress and also raises attention and sharpens the concentration level. Statistically significant result was observed in experimental group comparatively to the control group. Findings revealed that yoga is an effective therapy for the de-addiction of drugs and gradation of self confidence and attitude among drug addicts.

Zivari, Lesani, and Shokouhi (2012) selected a total of 520 samples out of the total population of 39000 students of Kerman's university of Iran by using stratified random sampling. The findings revealed that 180 subjects out of 520 (34.62%) were drug user. The abuse rate of drugs such as hookah, cigarette and alcohol covers 87.33%, while the remaining share includes other drugs such as opium: 5.55%, heroin: 1.12%, cannabis: 2.23%, galan: 1.66%, crack: 0.55%, psychotropic pills and ecstasy: 1.66%. The findings of this study reported that mental health of the drug abuser is lower in comparison to the non user. A significant difference was also reported while comparing aggression and hopefulness between drug users and non drug users.

Rav (2012) asserted that the regular practising of yoga helps in achieving positive physical and mental changes. It also assists to counter against stress, anxiety, emotional problem and jealousy that are interlinked with violence. Furthermore, asana keep the body in a healthy state and pranayama improves mental stability of the practitioner that lowers the level of aggression, whereas medication increases calmness of mind and also reduces aggression level. It was further recommended that there should be regular yoga classes for all the delinquents to prevent society from violence and crime.

Jagatheesan, Trivedi, and Anandh (2011) imparted a yoga therapy of 30 minutes regularly for 6 weeks to the subjects. Result clearly showed that yoga therapy is

beneficial in enhancing self-confidence and attitude. It was also proved that yoga therapy has beneficiary effects on mood changes and behaviour patterns also.

Woodyard (2011) assess the findings of selected articles regarding the therapeutic effects of yoga for providing a comprehensive review of the benefits of practising yoga regularly. Results indicate that yoga practices increase muscular strength, flexibility and improve respiratory and cardiovascular functions. Furthermore, it faster recovery from treatment, reduce stress, anxiety, depression, chronic pain, improve sleep patterns and enhanced overall well-being as well as quality of life.

Bilderbeck et al. (2013) examined the effects of 10 week yoga programme on different self-report measures including stress, mood and psychological distress among 100 subjects taken from seven different prison centers that were divided randomly into two groups. The experimental group consisted of 45 samples and control group included 55 samples. This study provides first evidence regarding the benefits of yoga predominantly in male prisoners. The results indicate positive outcomes of 10 week yoga programme in improved mood level, reduced stress and psychological distress level in experimental group comparatively with the control group. Practising yoga has behavioural inhibition and can be regularised for problematic and disinhibited behaviour like substance abuse and reaction aggression. It was also proposed that yoga has multiple cognitive benefits linked with indices of criminogenic behaviour.

Kannappan and Lakshmi (2008) conducted a study on 120 deviant adolescent boys divided randomly into two experimental groups and one controlled group. The two experimental groups were spitted into yoga-cognitive training and human relationship training, while the third group was considered as a control group. These intervention programmes was implemented for duration of one year. The results showed a significant difference in antisocial and maladjustment behaviour among both the experimental groups, whereas there was no difference in the control group with the related variables. The follow up of these groups reported sustained behavioural changes in antisocial behaviour and maladjustment behaviour in the deviant adolescent boys.

Duncombe, Komorosky, Wong-Kim, and Turner (2005) implemented a free inside programme to inmates comprising of yoga, meditation and chi-gung practice. The

subjects was representative of high range of offences such as rape, murder, robbery, assault, drug possession, drug trafficking and conviction for murder also. The programme was implemented to the subjects for a period of twelve weeks (i.e. two sessions in a week each of one hour). The findings of the study showed a significant decrease in depression level among participants and a significant rise in hope and physical and mental health. Other results although were not statistically significant but indicates promising output in life outlook, compassion and self-esteem.

2.1.3 Reviews on Sports

Park, Chiu, and Won (2017) examined the longitudinal effect of extra-curricular sports activities, physical education classes and leisure satisfaction on changes in aggressive behaviour of South Korean adolescents over 4 years. The survey was first taken in 2003 followed by later 3 years upto 2006. A stratified multi-stage cluster sampling method was used in the study. The results found that physical education participation had no effect on aggressive behaviour of adolescents. In addition, it was found that physical education classes in school are an effective tool in preventing and to cure anti-social behaviour. Extra-curricular sports activities and leisure satisfaction revealed a significant effect on the slope of aggression, thus encouraging an ethical and lower delinquent behaviour in adolescents.

Singh (2016c) conducted an experimental study on 50 male adolescents between 14 to 18 years of age group, which was divided equally into two groups (experimental group and controlled group). The experimental group participated in sports training programme for a period of six weeks (i.e. 4 sessions each of one hour weekly). Whereas, the control group did not participated in any type of training programme. The pre and post-test experimental design was used in the study; descriptive statistics and t-test were also used in the statistical part for the analysis of the data. The results found a significant difference in psychological well being between the training group and the controlled group.

According to Singh (2016d) sports practice provides an opportunity for various types of exercises that shape, nurture and tone up the health and mind of an individual. Participation in sports helps in improvising social skills, emotional skills, cognitive power and a healthy growth of bones, muscles, ligaments and tendon. All these are important aspects for the wellness of human being. Participation in sports allows an

individual to make up the best use of their leisure time and more significantly plays an important role in wholesome development of the personality and in the prevention of drug abuse. In addition, sports participation has shown positive impact on the mental and physical state of the human being.

Singh (2016e) compared perceived loneliness between active sports participants and sedentary adolescents. A total of 100 subjects were taken in this study, descriptive statistics and t-test were used for the analysis of data. The results highlighted that mean score of perceived loneliness among sports participant group was lower as compared to sedentary subjects. The $p < 0.05$ was found to be significant, thus showed a significant differences in the perceived loneliness between the mentioned two groups.

Jewett et al. (2014) identified significance of sports in the school curriculum because of its enhanced perception for social connectedness. Participation in school sports activities during adolescence have shown beneficial result that curbs depression, perceived stress and improves young adulthood mental health. A poor level of mental health deteriorates the quality of life and well being of an individual. Thus, it becomes very important to identify sports activities as preventive strategies during adolescence, to protect against poor mental health during adulthood. Children that participate in sports activities on regular basis during their secondary school period have lower depression symptoms, perceived stress and a high level of self rated mental health in comparison to students who never participated in sports during their school tenure. Sports also ensure self esteem, self confidence, emotional well being and quality of life which is associated with better mental health outcomes.

Eime et al. (2013) assessed a systematic review of literature regarding multiple benefit of sport participation related to multiple psychological and social health aspects. They identified a total of 3688 publications out of which 30 met the selection criteria. The study reported many psychological and social health benefits including self-esteem, social integration and a fewer depressive symptoms. It was further stated that participation in sports is a form of leisure time physical activity for adolescent that leads to improved physical, psychological and social health.

Wagnsson, Augustsson, and Patriksson (2013) examined the self report of 920 youth, age ranging between 10 to 18 years. The study examined the association of sports

participation with the indicator of youth psychosocial development (YPD). The result found a strong link between baseline sports involvement and (YPD) indicator that include self esteem, perceived physical competence, social competence, reported grades and alcohol use.

Haugen et al. (2013) conducted a cross sectional survey on 995 boys and 1,060 girls in 38 Norway schools with a mean age group of 15.3 year. The findings of this study reported that participation in sport during adolescence is associated indirectly with low level of loneliness and a higher level of social competence, which is drawn out by positive peer relationship, increased level of cohesiveness among mates, social recognition and social learning skills. Previous findings of Bohnert et al. (2007) in this regard, reported a sense of belongingness, intimacy in friendship and a positive developed peer relationship by means of participation in organised sport activities.

Dorak et al. (2012) conducted an experiment of 8 weeks (comprising of different sports activities) on children of different genders between 9 to 10 years of age group, measuring physical fitness parameters, self sufficiency and social skills. A total of 45 samples were selected, out of which 25 were in the experiment group and rest of the 20 in the control group. The results showed statistically no significant difference between the experiment and control group on self sufficiency and social skills, whereas a positive significant difference was observed on various physical parameters between different groups. It was also stated that perfect approach with execution of sufficient time duration in sports activities develops a positive character following rules and social values.

Ehansi et al. (2012) observed inherent compatible core value in sports that lead to the development of multiple life skills, thus empowering individual with an improved psychological well being. These features are beneficial among all ages of people especially for the young ones. Study emphasised over lowering the level of crime by diverting youth to participate in combined programme involving sports and other physical activity. The sports programme have broader context that leads to development of values, community sports, social interaction with improved concentration and lower depression. Result suggested that a need based sports programme can act more effectively and appropriately in lowering the rate of crime among people, instead of product led development approach of sports.

Theokas (2009) stated that involvement in sports are linked with multiple benefits but mere sport participation does not guarantee benefits, it is the development and execution of the sports programme with desired qualities and accuracy leading towards enjoyment and multiple development process. Requirement process varies by sports, while multiple patterns of interaction including peers, coaches develop unique experiences. The diversity of sports attracts participants of different age group and thus sustains their development over time. Study recommended that a special section on the youth engagement in sports will stimulate thought process. Finally, a detailed examination of this process ultimately leads to improvement in training and intervention programme.

Donaldson and Ronan (2006) measured the relationship of children sports participation with emotional well being including behaviour problem and self concept. The data was collected from 203 adolescents. The results of the study specified a positive relation of adolescent sports participation with emotional well being and behaviour well being. The study also stated that sports participation is remarked positively with self concept also.

Smith and Waddington (2004) seek some critical appraisal on policy issues and problems in sporting schemes implementation for reducing the level of crime, delinquency and drug abuse among young people. It was specified that the effectiveness of different sporting schemes have shown little evidence in reducing the rate of crime and drug use, even though the success is claimed in the absence of precise theoretical rationale of such schemes that could not clear which aspect of these sporting schemes can be accounted for success.

Steiner et al. (2000) conducted a survey on 1769 students (males 52.1% and females 47.9%) with mean age group of 15.9 years. It was hypothesised that participation in sport will have positive affect in countering mental health problems. Adolescents participated in sports differ from their mates as they reported less general and mental health problems. The results indicated a significant effect on mental health problems indicating association of sports participation across mental health and physical health benefits.

Cameron and MacDougall (2000) reviewed different sporting programme that has positive effect in helping youth to steer away from troublesome behaviour. Some of

the sporting programmes included in the study were wilderness therapy programme incorporating physical activity, the Canadian participate and learn skilled programme: Community involvement of sporting clubs and aboriginal sports carnival. This sporting programme included judo, swimming and netball as sporting activities. The report suggested that such kind of approaches can be extremely successful in preventing the youth from crime. These sporting programmes come out with positive impacts including immediate decreases in the level of criminal activity as theft and vandalism, decrease in the rate of criminal propensity and increase in sense of belongingness among participants.

2.1.4 Reviews on Recreational Activity

Sharma & Singh (2018) imparted different training programme in yoga and recreational activity for managing criminal propensity among drug addicts. A training programme of ten weeks was implemented to two experiment groups, while as no sort of treatment was given to control group. The data was analysed through ANCOVA and post hoc test. The findings revealed that there was a significant difference of all the treatment groups with the control group as the $p < .05$. However adjusted mean value of recreational activity group was found to be least 76.67, thus recreational activity group was considered as the most effective treatment group and control group was the least effective treatment group in reducing criminal propensity among the drug addicts.

Aksoy, Cankaya, and Tasmektepligil (2017) evaluated the depressive state and loneliness among 219 adolescents aged between 11 to 13 years. Out of 219 only 115 subjects were engaged in recreational and sports activities while the remaining 104 did not participated in a 13 week duration programme. The results revealed that there is a high level of depression among subjects who did not participated in any of the recreational and sports activity, the level of depression was low among the participants who were regularly engaged in these activities. The loneliness score was significantly higher among non participants as compared to the individuals who participated in the related activities. In addition, to this low level of depression and loneliness scores among individual is the direct product of engagement in these activities. Thus participation in such activities for a long period of time eliminates the possibility of depression and lonely behaviour and improves social integration among adolescents.

Badura et al. (2017) compared the association between organised leisure time activities (OLTA) participation and risk behaviour among adolescents with 11 to 15 years of age group. The results reported that adolescent engaged in OLTA had lesser frequency to smoke, drink alcohol or skip school. Further, lower odds to substance abuse and truancy were also confirmed comparatively to their non active peers. In addition, higher rate of injuries and physical fights were found in case of boys.

Basaran (2016) conducted an experimental study among female subjects age between 20 to 59 years, out of which 70% of the woman were between 20 to 39 years of age group. The convicted woman length of sentence was upto 1 to 10 years in the prison approximately. The programme comprised of music, dance, mediation, sports activities, videos and entertaining competition lasted for twelve week (i.e. one and half hour in each session for two days in a week). The findings revealed a rise in between pre-test (64.17_+ 16.20) and post-test self-esteem scores (66.78+_4.35) in experiment group, but these findings were not supported statistically. The pre-test loneliness score (44.78+_ 8.83) was supported statistically significant in comparison with the treatment group. Thus by examining results it was concluded that recreational activity leads to positive impact on raising self-esteem and lowering down loneliness level of the convicts in the prison. In addition, recreational activities keep people busy in sports, cultural and artistic activities. This makes an integrated happy social life for them.

Sharma and Singh (2016) reported that juvenile delinquency is an issue of concern through out the world, it is perpetual and has led towards dire consequences. Thus, the present period emphasis to come out with exotic pondering programmes for juvenile delinquents through which bridle can be imparted towards criminal propensity. Researchers have conducted their research work on various components associated with the causes, consequences and various prevention programmes for the juvenile delinquents. Both sports and recreational activity are having enough potential to tackle this problem, so a well organised training programme design encompassing selected sports and recreational activity need to be imparted on the juvenile to bring out a positive change in their behaviour.

Singh (2016h) carried a study entitled as “Recreational activity: Countering aggression and psychological well being among drug addicts”. The objective of the study was to examine the impact of recreational activity on aggression and

psychological well being among drug addicts. After reviewing the literature it was hypothesised that there exists a significant effect of recreational activity on aggression and psychological well being among drug addicts. The subjects were divided equally into two groups one experimental group and another one as control group. A ten week recreational activity programme comprising of various activities were implemented to the subjects of experimental group. A pre and post-test randomised research design was used in the study. The data was analysed through descriptive statistics and Analysis of Covariance (ANCOVA). The results revealed that there was no significant difference of different treatment programme on aggression and psychological well being among drug addicts. There was almost no improvement in pre and post-test mean value scores of aggression among drug addicts, although there was a significant difference in the pre and post-test mean scores of recreational activity programme on psychological well being. Thus, such kind of training programme can be of great importance in improving psychological well being of drug addicts.

Singh (2016i) reported that drug abuse and crime is a matter of concern through out the world that has led toward dire results in terms of rape, robbery, assault and vandalization. The present time period demands implementation of well defined structured programme to counter this evil. Recreational activity rejuvenates energy in the body and mind. Thus, youth should be encouraged for participation in organised activities under supervision. They should be given ample opportunities for participation in various recreational activities. The participation in different activities will increase cohesiveness among youth of different sections of the society. This develops a positive behaviour among the youth that keeps them away from drug and crime.

Koo and Lee (2015) revealed that recreation becomes more effectual if it is practically executed as per different gender, age and abilities. Group recreational activities benefits in interpersonal skills, independence and self esteem, bringing various psychological benefits. Physical activity based recreational activity improves physical, cognitive, social and emotional life. Participation in these activity leads to improved quality of life. Children participation in recreational activity over a long period of time increases their confidence and optimistic level. Leisure sport participation improve physical self concept and enhances resilience also. Participation

in these activities leads to improved cohesion in relationship among children thus enhancing their capabilities that can overcome any obstacle under stressful period. A very long duration ardent participation in such activities develops a law abiding spirit in participants.

Chang, Wray, and Lin (2014) proposed that leisure activity contribute the most in improving health whereas physical leisure activities have the most significant contributions in improving health. In the other context mental leisure activities also contribute significantly to health. However it has shown the most positive affect on psychological well being in comparison to physical health outcomes. The finding of the study showed that leisure activity promotes healthy behaviour that link between social relationship and health thus bringing out a practical implementation with positive benefits. The study also highlighted the capability of leisure activity for making future health policies and clinical interventions.

Gurik (2012) examined relationship between physical activity and psychological well being among a total of 65 subjects falling between 18 to 40 years of age group. The findings concluded that physical activity has a weak positive correlation with psychological well being. In addition, physical activity reduces psychological stress but as an intervention programme for drug addiction it has not been proved to be affective.

Eccles, Barber, Stone, and Hunt (2003) precised arguments linking structure leisure activity participation in relation to positive youth development. Participants involved in more extracurricular activities shows positive educational out comes as compared to non-participants. Services and activities religious in nature practiced by participant's resulted in a low level of alcohol drinking and drug use intake. Result found that subjects who participated in school team games come out with better educational results but a high level of alcohol consumption was reported among them.

William (2002) found that participation of subjects in highly structured leisure activities resulted in a low rate of antisocial behaviour. A high rate of antisocial behaviour was observed with participation in low structure activity among boys. Participants in such activity were also characterised by poor group relationship and deviant child-parent relationship. Subjects in low structured activity experienced a

low back up from their activity leader in comparison to participants involved in more structured activity.

Begg, Langley, Moffitt, and Marshall (1996) interviewed the subjects between 15 to 18 years of age group. The findings showed that participants involved in physical activity during years of adolescence do not decline delinquent behaviour in later periods. It was also revealed that males and females with the peak levels of physical activity participation at 15 years of age were reported with the higher level of delinquency at the age of 18 years.

2.2 Research Gap:

Based on the review of extant literature concerning the criminal propensity among drug addicts, present study attempts to bridge the following research gaps. In India and specifically the state of Punjab has witnessed a gigantic use of drugs in the recent years (Kalva and Bansal, 2012). The use of drugs, alcohol consumption and violent crime are closely linked with each other (Valdez, Kaplan, & Curtis, 2007). A longitudinal study conducted by Fridell, Hesse, Jueger, and Kuhlhorn (2008) on 1052 drug abusers revealed that all of the subjects were convicted for crime at least once in their lifetime. Drug addiction is increasing globally, that is why it has become important to restrain this obscure.

Existing literature has revealed that there are multiple number of studies being conducted to explore the benefits that can be derived from sports and recreational activity participation. In this regard, Cameron and MacDougall (2000) has observed that sporting programme comprising of judo, swimming and netball helps in decreasing the criminal activity and increasing the sense of belongingness among participants. Further, Badura et al. (2017) suggested that participation in organised leisure time activity decreases the substance abuse and truancy rate among individual. In addition, sports assists in making up the best use of leisure time, prevent drug abuse and leads to wholesome development of the personality through improved mental health. As per Hosseinbor et al. (2014) there is strong evidence of loneliness among drug abusers as compared to non drug abusers. Thus, it has been recommended to consider loneliness in designing future programme for the prevention and treatment of drug addiction. Furthermore, Aksoy et al. (2017) revealed that participation in recreational and sports activities eliminates loneliness and state of

depression that leads to improved social integration among adolescents. Also, Steiner (2000) showed significant result of sport participation in mental health, lower loneliness (Haugen et al., 2013), positive peer relationship and sense of belongingness (Bohnert et al., 2007). A perfect approach with execution of sufficient time duration develops positive character and social values along with emotional and behaviour well being (Dorak et al., 2012; Donaldson and Ronan, 2006). Concerning other variables of the study, Park et al., (2017) explored that participation in sports and leisure activity shows a significant change in aggression level that helps in reducing the level of delinquent behaviour and improving self esteem (Basaran, 2016) and psychological well being (Singh, 2016h).

Contrary to the above findings, Nichols (1997) observed that the effectiveness of sports and leisure activity in reducing crime has little evidence in the existing literature. In this regard, Smith and Waddington (2004) asserted that sporting schemes have shown little evidence of effectiveness in reducing the rate of crime and drug use. In addition, Gurik (2012) reported that physical activity as an intervention programme for drug abusers had not proved to be effective. With regard to this notion, Ehansi et al. (2012) emphasised on a need based sports programme for lowering the rate of crime among people. As per Eime et al. (2013) there is relatively less research contributing to the benefits of sports participation with regard to social and mental health. Thus, it is recommended to further investigate these relationships. In addition to the above findings, there are some studies reporting inverse relationship between sport participation and loneliness (Page et al., 1992).

Thus, it is concluded that existing literature examining the role of sports and recreational activity in the management of criminal propensity, mental health, aggression and loneliness among different sections of the society have shown inconsistent results. Also, it has been recommended in previous studies to consider sports participation with social health, mental health, rate of crime, drug use and implementation of a need based programme to reduce this social evil. While considering these research gaps, present study has framed the various objectives of the study.

The present study has incorporated another important aspect of yoga practices that improves positive feeling and eliminates negative thoughts among individual. It develops personality and has been proved to be beneficial in the management of

criminal behavior among youth (Singh, 2016a). Yoga has marked a significant improvement in the quality of life and reducing depression among drug abusers (Devi et al., 2015; Woodyard, 2011). It has shown significant changes in social dysfunction, anxiety, stress and insomnia (Devi et al., 2013) and rising empirical support for the prevention and rehabilitation of drug addicts (Khanna and Greeson, 2013; Mathews et al., 2013). Furthermore, it improves self-confidence among practitioners. Rav (2012) recommended yoga classes for delinquents to prevent violence and crime in the society. Practicing yoga has behavioural inhibition and can be beneficial for problematic and disinhibited behaviour like substance abuse and reaction aggression (Bilderbeck et al., 2008). In spite of all these enduring efforts, more robust researches are required to consider the potentiality of yoga as a rehabilitative endeavor (Muirhead and Fortune, 2016). In India multiple studies have shown the benefits of yoga on various variables, but we failed to find even a single experimental study that has incorporated yoga for the management of different factors including criminal propensity, psychological well being, loneliness, aggression and personality among drug addicts. Thus, more research is required that may provide evidences with regard to the improvement and management of aforesaid parameters and treatment programmes.

Furthermore, drugs abuse and crime has considerably increased at a high percentage. in India, especially in the state of Punjab, which is the prime reason for the investigator to carry out research in this specific domain. To the best of investigators' knowledge no previous study has examined the significance of four different treatment programmes comprising of yoga, sports, recreational activity and composite treatment programme for the management of criminal propensity among drug addicts. The present study is the first of its kind that takes into consideration five different psychological parameters that are quite predominant among drug addicts. Over the past years there has been lot of research work conducted in the field of tool development for the assessment of different psychological variables. In spite of this, no standardised research tool was available to measure the criminal propensity. Thus, it was of immense importance to carry out research keeping in view the aforesaid research gaps.

CHAPTER 3

RESEARCH METHODOLOGY

This chapter includes a detailed description of the methodological part of the study which includes research design, sampling, data collection, sample description, research instrument followed by the statistical analysis approach that has been explained in the later section of this chapter. A detail description of the four experimental programmes has also been presented in the last section of this chapter.

3.1 Research Design

Research design is considered as a blue print for conducting the research work that indicates the draft for the methodology part of any study (Malhotra & Dash, 2014). A pre-test and post-test randomized research experimental design was selected to meet the various objectives of the study. The study was experimental in nature, planned for management of criminal propensity, loneliness, aggression, psychological well being and personality among drug addicts by means of yoga, sports and recreational activity. The drug addicts being treated in drug rehabilitation centers of Jalandhar city were selected as population for the present study. In Jalandhar there are various numbers of drug rehabilitation centers, hence for the sake of feasibility, requirement and economy, the scope of the study was narrowed down upto three centers from Jalandhar district (Punjab). Initially, the investigator seeked permission from the concerned authority to carry out the experiment in selected drug rehabilitation center of Jalandhar. A total of 75 samples were selected by means of purposive random sampling that was equally divided into five groups, four experimental groups and one controlled group (each group comprised of 15 samples). Experimental group 1: (yoga training group) participated in yoga training programme. Experimental group 2: (sports training group) participated in sports training programme. Experimental group 3: (recreational activity training group) participated in recreational activity training programme. Experimental group 4: (composite training group) participated in selected yoga, sports and recreational activity. Group 5 was considered as control group and no training was imparted to this group. The experiment programme was implemented to the samples for a period of 10 weeks (i.e. 5 sessions per week each of one hour). On the basis of four different training programmes along with control group, the effect of different training programmes on the criterion variables among different

groups was assessed. The medical record which was maintained by the concerned authority was also checked to ensure that the subjects are physically fit to take up the research based treatment. For imparting the training of yoga a qualified yoga instructor was hired.

3.2 Sampling

For appropriate representation of the population, purposive random sampling technique was used, which is a probabilistic sampling technique. A list of various drug rehabilitation centers from Jalandhar were drawn, out of which only three centers were selected for the present study. The selected three drug rehabilitation was named as: Bolster Treatment and Rehabilitation Center, Rebirth Hospital and Rehabilitation Center and New Hope Rehabilitation and Treatment Center. A total of 75 subjects were selected through purposive random sampling technique falling between 15 to 35 years of age group. There are experimental studies that had implemented different treatment programme among drug addicts, with such age difference among their samples (Singh, 2016h; Basaran, 2016; Devi et al. 2015; Mahi et al., 2011). Afterwards, the samples were equally divided into four experimental groups and one control group (15 samples in each group).

3.3 Data Collection

Prior to the administration of pre-test on the criterion variable, a meeting of all selected subjects and concerned authority was called by the investigator to explain in detail about the purpose of the study along with the testing procedure and the training programme. It was taken care that every sample performs it without any difficulty. A pre-test was conducted on all the five groups (i.e. 15 subjects in each group). After pre-test, training programme of 10 weeks was implemented to the four experiment groups, whereas control group was not exposed to any sort of training. After completion of the experiment a post-test was conducted on the criterion variables among all the five groups. Post-test data was collected from those subjects that had gone through the complete training programme for a time period of 10 weeks. A total of 50 subjects out of 75 had gone through the complete training programme, whereas 20 subjects left the center and the remaining 5 subjects could not fill the questionnaire appropriately. Thus, the raw data of these 25 subjects was removed before the compilation of final data. Importantly, at the end of 10 weeks training programme, all

of the 5 groups (i.e. 4 experiment groups and one control group) were equal in sample size.

Table 3.1 : Sample size during Pre and Post-test

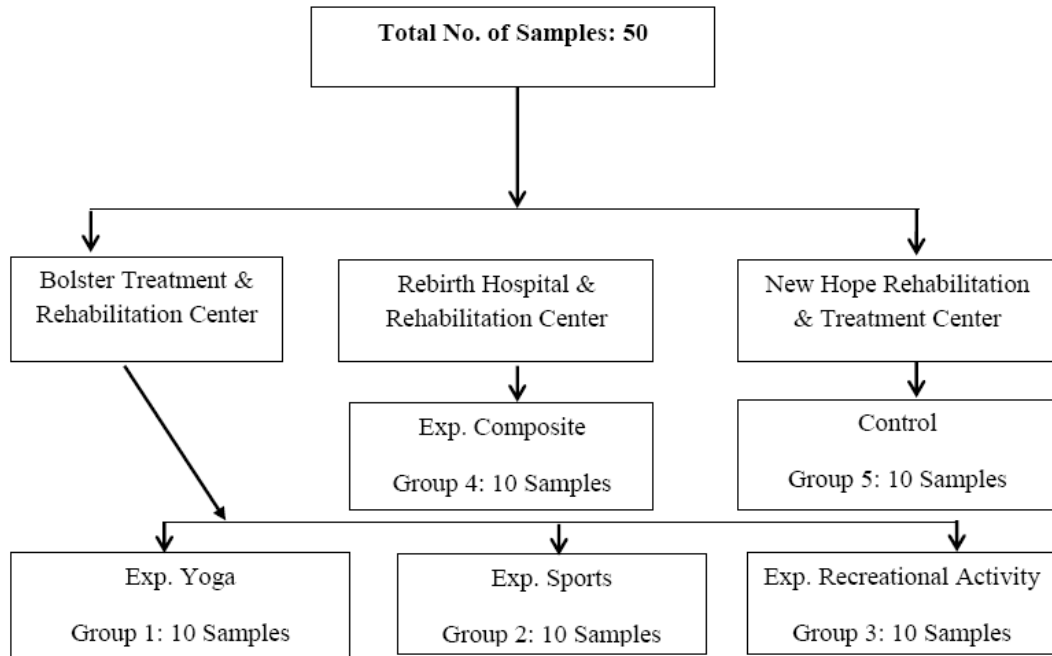
S. No	No. of groups	Total no of samples (Pre-test data)	Duration of Experimental programme	Total no of samples (Post-test data)
1.	5	75 (15 samples in each Group)	10 weeks	50 (10 samples in each Group)

3.4 Sample Description

The sample consisted of 75 male drug addicts from three drug rehabilitation centers of Jalandhar district (Punjab) with age ranging from 15 to 35 years. The samples were distributed randomly into five groups (i.e. four experiment groups and one control group). The post-test data was collected from a total of 50 samples, as these samples had undergone through the complete experimental programme of 10 weeks. The final sample description of the samples for the study is shown in **(Figure: 3.1)**.

Figure 3.1

Presentation of Sampling Frame



3.5 Research Instrument

The instrument administered in the study was finalised after a thorough review of literature. The instruments were selected while keeping in view the need for achievement of various objectives of the study. The area of interest in research instrument section was the criterion variables of the study. To measure dependent variables, five scales measuring criminal propensity, aggression, loneliness, psychological well being and personality were selected for the study. For each criterion variable, already standardised and pre-published instruments were explored that were possibly the best for the fulfillment of the study objectives. To measure all the variables, standardised scales were available except criminal propensity. Thus, for measuring criminal propensity, a scale was developed and standardised to meet the objectives of the study. The research instrument that was used in the study was divided into 5 parts as shown in (Table: 3.2).

Table 3.2 : Source of Research tool, Validity and Reliability of the Scale

S. No	Research Tool	Author	Year	Reliability	Validity
1.	Criminal Propensity	Singh & Sharma	2016	0.89	Experts
2.	Aggression Scale	Bhardwaj	2008	0.86	0.81
3.	Perceived Loneliness Scale	Jha	1997	0.84	Experts
4.	Psychological Well Being Scale	Sisodia & Choudhary	2012	0.87	0.94
5.	Eyeseck Personality Questionnaire	Dey & Thakur	2011	.80 to.87	Experts

3.5.1 Criminal Propensity Scale

Criminal propensity was measured using a self developed criminal propensity scale by Singh and Sharma (2017). The scale consist of four dimensions i.e., aggression, obedience, anti social behaviour and drug abuse. These dimensions were measured through 50 items, response for each item was sought on a five point likert scale with scores ranging from 1 indicating never to 5 indicating always for positive items and for negative items scoring ranged from 5 indicating never to 1 indicating always. The content validity of the scale was determined from the highly qualified experts. The chronbach's alpha method was applied to ascertain the reliability of the scale. A statistical analysis computer programme SPSS 16 (Statistical Package for Social Sciences) was used to calculate the values of chronbach's alpha. The reliability of the scale was found to be 0.89. This shows the reliability coefficient which signifies the reliability of the entire scale. Coefficient alpha is zero if there is no true score and the item consists of only errors. If all the items show a true score and measure the same thing, then the value of coefficient alpha is equal to 1. The chronbach's alpha

acceptable limit is generally .70 but in case of exploratory research, the limit can be decreased up to .60 (Hair et. al., 2009). This scale can be used on drug addicts, students and even on adults. The scale is helpful in screening the individuals with criminal propensity who may need assistance and counseling for their happy and excellent future.

3.5.2 Aggression Scale

Aggression scale developed by Bharadwaj (2008) was used to measure aggression among respondents. The scale is consist of 28 items, responses were obtained on five point likert scale with scoring of 5,4,3,2,1 from upper to lower end. The total of all the scores calculated from each item were considered as aggression score of the subject. The reliability of the scale was .79 by product movement method and 0.86 by Gutmon formula. The theoretical validity of this scale is .83 while its construct validity is .81. This tool is a self administrated scale and can be used on the subjects above 10+ years of age among individuals as well as in group.

3.5.3 Perceived Loneliness Scale

Perceived loneliness scale developed by Jha (1997) is a unidimensional self reported research tool that provides a holistic estimate of loneliness among subjects. It was measured on a five-point likert scale comprising of 36 items with scoring ranged from 5 to 1 for positive item (i.e., 5 for totally agree to 1 for totally disagree) whereas in negative item scoring ranged from 1 to 5 (i.e., 1 for totally agree to 5 for totally disagree). The minimum and maximum scores ranged from 36 to 180. This scale possesses a fairly high reliability of .84 by Kuder-Richardson formula and .82 by test-retest method. The content validity and the concurrent validity of the scale were found to be significantly high. The practicability and applicability of the scale can be done individually. It can be used even in residential set-up or in class room situation also.

3.5.4 Psychological Well Being Scale

Well being is considered as one of the most important aspect for having a good quality of life, which individual as well as society strive for. The term denotes that something is in good state. Psychological well being scale was developed by Sisodia and Choudhary (2012). This scale has been found to be very useful for examining quality of life index and mental health status of an individual. It acts as an indicator of measuring population changes in sense of well being overtime. It also shows

significant relationship with therapeutic intervention, thus can be used to evaluate outcome in such cases. The final forms of scale was consist of statements that measure several aspects of well being like satisfaction, efficiency, sociability, mental health and inter personal relationship. All the items of the scale were positive with scores varying from 5 for strongly agree to 1 for strongly disagree. The reliability and the validity of the scale is 0.87 and 0.94 respectively. The practical applicability of this scale is open to individual of any age group.

3.5.5 Eysenck Personality Questionnaire

After pondering various alternatives eysenck personality questionnaire developed by Dey and Thakur (2011) was administrated in this study. This tool consist of 72 items that are equally divided into four dimensions (psychoticism, extroversion, neuroticism and lie) measuring different traits of a person. The reliability of this questionnaire has been determined by two methods: Test-retest method that resulted in values between (.63 to .88) and the other method was odd-even method that resulted in values between (.80 to .86), which was found to be satisfactory for using in the study. The scoring was done by using the referred scoring key of the questionnaire.

3.6 Statistical Analysis Approach

The statistical tools and techniques used in the research work are descriptive statistics, Analysis of Covariance (ANCOVA) and post-hoc test using LSD (least Significant Difference). The analysis of the data was done using SPSS 16.0 version software. After entry of the data in SPSS it was checked whether it had been entered accurately or not. The data was analysed by using the above mentioned techniques. A brief explanation of the analytical tools and technique used for analysing the data is elaborated below:

3.6.1 Descriptive Statistics

According to the appropriateness of statistical techniques relevant for the study, only mean and standard deviation was calculated from the descriptive statistics for this research work.

3.6.2 Introductory Concepts of Analysis of Covariance (ANCOVA)

Analysis of covariance (ANCOVA) is a statistical technique that may be considered as an extension of analysis of variance (ANOVA). Analysis of covariance combines

features of one-way analysis of variance with simple linear regression. It is so because the treatment groups are compared likewise analysis of variance and this adjust the measurement on criterion variable on the basis of covariate by using the concept of regression of analysis.

ANCOVA minimise the error variance by controlling the concomitant variables which varies along with the criterion variable in the entire experimental group. These concomitant variables are also known as covariate as they are highly correlated with a criterion variable thus they possibly explain the difference in the treatment groups. The ANCOVA design isolate the variability component due to covariate so that group difference if any occur it may be solely attributed to the treatment only. In other words the purpose of analysis of covariance is to test the comparative effectiveness of two or more treatments on the criterion variable after adjusting for the initial difference due to covariate. In many situations, it is not possible to identify single covariate which affects the measure on criterion variable during experimentation. In that case, initial testing (X) on the criterion variable in each of the treatment group may be considered as covariate, and the measure on the criterion variable after the treatment (Y) in all the treatment groups is the one in which we are interested to investigate (Verma, 2013; Verma, 2011). The analysis of covariance design should be used if the following things happen:

- The response on the criterion variable is continuous.
- There are one or more classification variables (Treatment groups).
- There are one or more continuous independent variables (Covariate).

The level of significance was set at 0.05 level of confidence for testing of hypotheses. Further, wherever 'F' value was found significant, it was subjected to post-hoc test to find out the difference between the adjusted final means.

3.6.3 Post-hoc Test

Post-hoc test is used for testing the significance of mean difference between groups. It is used when the null hypothesis of equality of means is rejected. There are many post hoc-tests available to compare the group means. These tests are least significant difference test (LSD), scheffe test, sidak test, tukey test, duncan test. The most commonly used tests are LSD and scheffe. LSD test is used when sample size is same and in case of unequal sample size, scheffe test is applied. For each pair of means to

test the significance of difference between them the level of significance was set at 0.05 level of confidence. If p -value for any pair of means is less than 0.05 level, it concludes that there is a significant difference between two means. On the other side if p -value is greater than 0.05 level, it concludes there is no significant difference between the two means (Verma, 2013). Statistical analysis associated with each research objective are summarise in (Table: 3.3).

Table 3.3: Statistical Analysis associated with Research Objectives and Hypotheses

S. No	Objectives	Hypotheses	Research Technique
1.	To assess the impact of selected training programme in yoga, sports, recreational activity, composite and control group for managing criminal propensity among drug addicts.	$H_{(1)}$: There exists a significant difference in the selected training programme in yoga, sports, recreational activity, composite and control group in managing criminal propensity among drug addicts.	1. Descriptive statistics (mean and standard deviation) 2. ANCOVA and post-hoc test using least square difference (LSD).
2.	To examine the impact of selected training programme in yoga, sports, recreational activity, composite and control group for managing aggression among drug addicts.	$H_{(2)}$: There exists a significant difference in the selected training programme in yoga, sports, recreational activity, composite and control group in managing aggression among drug addicts.	1. Descriptive statistics (mean and standard deviation) 2. ANCOVA and post-hoc test using LSD.

3.	To analyze the impact of selected training programme in yoga, sports, recreational activity, composite and control group for managing loneliness among drug addicts.	H₍₃₎ : There exists a significant difference in the selected training programme in yoga, sports, recreational activity, composite and control group in managing loneliness among drug addicts.	1. Descriptive statistics (mean and standard deviation) 2. ANCOVA and post-hoc test using LSD.
4.	To study the impact of selected training programme in yoga, sports, recreational activity, composite and control group for managing psychological well being among drug addicts.	H₍₄₎ : There exists a significant difference in the selected training programme in yoga, sports, recreational activity, composite and control group in managing psychological well being.	1. Descriptive statistics (mean and standard deviation) 2. ANCOVA and post-hoc test using LSD.
5.	To find out the impact of selected training programme in yoga, sports, recreational activity, composite and control group for managing personality among drug addicts.	H₍₅₎ : There exists a significant difference in the selected training programme in yoga, sports, recreational activity, composite and control group in managing personality.	1. Descriptive statistics (mean and standard deviation) 2. ANCOVA and post-hoc test using LSD.

Table 3.4 : 10 week Training schedule for Experimental group 1 (Yoga Training group)

S. No	Day	Time	Yoga Training Programme (Per day)	Repetition
1.	Mon	7 Am to 8 Am	Surya Namaskar	2
2.	Tue	7 Am to 8 Am	Tadasana	3
3.	Wed	7 Am to 8 Am	Padmasana	3
4.	Thur	7 Am to 8 Am	Titliasana	3
5.	Fri	7 Am to 8 Am	Paschimottanasana	3
			Ushtrasana	3
			(Rest)	
			Chakarasana	3
			Sarvangasana	3
			Anulom and Vilom	3
			Ujjayi	3
			Kapalbhati Pranayama	3
			Om Chanting	3
			Dot Tratak	3
			Savasana	3

Table 3.5: 10 week Training schedule for Experimental group 2 (Sports Training group)

S. No	Day	Time	Sports Training Programme (Per day)
1.	Mon	6 Pm to 7 Pm	Warm up
			Football (Game)
			Cool down
2.	Tue	6 Pm to 7 Pm	Warm up
			Volley ball (Game)
			Cool down
3.	Wed	6 Pm to 7 Pm	Warm up
			Tennis ball cricket (Game)
			Cool down
4.	Thus	6 Pm to 7 Pm	Warm up
			Hand ball (Game)
			Cool down
5.	Fri	6 Pm to 7 Pm	Warm up
			Badminton (Game)
			Cool down

Table 3.6: 10 week Training schedule for Experimental group 3 (Recreational Activity Training group)

S. No	Day	Time	Recreational Activity Training Programme (Per day)
1.	Mon	5 Pm to 6 Pm	Cat & mice
			Changing seats
			Singing
2.	Tue	5 Pm to 6 Pm	Drop the handkerchief
			Elimination ball
			Dance
3.	Wed	5 Pm to 6 Pm	Keep the ball
			Duck walk race
			Tug of war
4.	Thus	5 Pm to 6 Pm	Leep frog
			Hill dill
			Busy bee
5.	Fri	5 Pm to 6 Pm	Sound and action
			Leg cricket

Table 3.7: 10 week Training schedule for Experimental group 4 (Composite Training group)

S. No	Day	Time	Composite Training Programme (Per day)
1.	Mon	3 Pm to 4 Pm	Tadasana
			Titliasana
			Singing
			Football (Game)
2.	Tue	3 Pm to 4 Pm	Paschitmottanasana
			Ushtrasana
			Dancing
			Volley ball (Game)
3.	Wed	3 Pm to 4 Pm	Chakarasana
			Sarvangasana
			Leg cricket (Game)
			Hand ball
4.	Thus	3 Pm to 4 Pm	Anulom & vilom
			Ujjayi
			Tug of war
			Tennis ball cricket (Game)
5.	Fri	3 Pm to 4 Pm	Om chanting
			Dot tratak
			Changing seats
			Badminton

3.7 Description of the Yoga Training Programme

Yoga asana, pranayama and different techniques of meditation were the selected activities in this training programme. The training schedule for experimental group 1 (yoga training group) is mentioned in **Table: 3.4** and description of the each activity has been given below:

3.7.1 Surya Namaskar (Salutation to the Sun)

The instructor commands subjects, to stand in upright position with feet grounded firmly together and palms in front of the chest in prayer position. Inhale with lifting the arms in the air arch backward from chest, bringing the pelvic region forward with stretching arms and fingers backward without dropping the head back as it can cause undue pressure to the lower back. Now exhale by bending forward until the head touches the knee and placing the palms of the hand on the floor next to the feet. Again inhale and place the right knee behind on the floor but keeping the left knee bended between the arms and look up without trying to stretch the hip too far towards the floor. Hold the breathe, bring the left leg back into push up position, look straight ahead and be in natural line of vision with neck and body to be in straight line. Slowly bend knees, lower the chest and forehead to the floor but keep the elbows lifted off the floor closer to the ribs followed by exhalation. Now inhale with hands firmly grounded on the floor closer to ribs. Stretch your toes pointed outward and slowly lift your head and chest upward, without pushing too much pressure on the lower back. Now exhale and lift your hips up and push your heels as far as possible into the floor and look at the feet. Breathe in by taking large step forward to bring the right foot between the hands by lowering back knee to the floor with toes pointed out. While breathing out, bring the left foot forward and place it in between the hands. Straight both the legs as much as possible until the head touches the knee by keeping the palms on the floor. While breathing in, stretch arms forward and up by keeping arms next to the ears arching back from the chest. Completely exhale and return to the starting position with palms together in front of the chest and take complete breath.

3.7.2 Tadasana (Mountain Pose)

Subjects were instructed to stand in a straight position on the mat with their feet together and keeping their toes, inner ankles and inner heels touching. Pressing their feet firmly to the ground followed by maximum inhalation and then both the arms

were raised straight above the head with fingers interlocking each other. Now the toes were raised upward slowly with a slight bend of the back. The posture was balanced for some seconds and then hands and toes of the foot were put down slowly to attain normal position.

3.7.3 Padmasana (Lotus Pose)

Subjects were directed to sit in a relaxed position on the mat. Then the instructor command subjects, to fold one knee and place their foot on the opposite thigh close to their groin. Then they fold their other leg and placed it over their other thigh, with their foot towards the groin by keeping their back straight and placing hands on the knees, holding it as long as they are comfortable.

3.7.4 Titliasana (Butterfly Pose)

The investigator commands subjects to sit with their legs stretched out, folding their knees and drawing their feet towards groin, interlocking hands around the feet and keeping the back straight, then moving the legs continuously up and down in a flapping motion for one to two minutes.

3.7.5 Paschimottanasana (Forward Bend Pose)

The instructor commands the subjects to lie flat on the mat with their legs stretched out and hands on the knees. Now inhale slowly, by raising the arms, head and trunk simultaneously, without raising the knees, hold the toes with fingers, contracting the abdomen and gently pressing the head against the knees, pulling the toe with the arms and lowering the elbows. The bending was done very slowly and the subjects remained in that pose for few seconds increasing the time gradually, then returned to the original position and then relax.

3.7.6 Ushtrasana (Camel Pose)

Subjects were instructed to sit on knees, raising their body and knees down with their legs apart. Inhale while dropping hands to the ankles and bending back and head downwards, holding position as long as it could be and then while returning, exhale with raising one hand off the ankle followed by the other one and then raise the back slowly for returning back to their normal position.

3.7.7 Chakrasana (Wheel Pose)

As per the instruction, the subjects lie flat on the back, bend the elbows and place palms on the floor, shoulder with fingers pointing towards the neck, bend knees and place it close towards the buttocks. In sequence raise the hips, shoulders and head of the floor by supporting the weight on the hands and legs. This straighten the elbow and raises hips higher, stretching the back completely and pushing the stomach outward, holding that posture as long as possible and then return towards the floor in normal position slowly, by lowering the shoulders and back without any strain.

3.7.8 Sarvangasana (Shoulder Stand Pose)

The instructor commands the subject to get themselves in supine position with both of their legs close to each other. The toes were stretched and hands were placed near thigh on the ground, while inhaling, both of the legs were raised upto 90°. Now lift your waist and take your legs upto 160°, support your waist by both hands and straighten your legs upto 90° once again. Tighten your toes pointing upwards, while exhaling keep your waist straight and when the waist is completely straightened lift your head gradually and bring your legs back slowly on the ground.

3.7.9 Anulom and Vilom (Alternate Nostril Breathing)

The subjects were directed to sit in any comfortable position and then start inhaling through the left nostril, closing the right with the thumb up to the count of four. Hold the breath, closing both nostrils to the count of sixteen. Exhale through the right nostril, closing the left with the little finger, to the count of eight. Now inhale through the right nostril, keeping the left nostril closed with the little finger, to the count of four. Hold the breath, closing both nostrils, to the count of sixteen and at last exhale through the left nostril, keeping the right closed with the thumb, to the count of eight.

3.7.10 Om Chanting

The subjects were directed to sit with crossed legs, keeping their spine region upright, with closed eyes and take a few deep breaths before the start. Then simply chant Om slowly three times, practice a long relaxed humming sound a few times and then gradually add a wide and open 'O' sound and finishing it on a prolonged 'M' sound.

3.7.11 Ujjayi

The instructor commands the subjects to exhale forcefully thus releasing the air out of lungs completely, that leads the glottis partially closed, abdominal muscles completely tighter and thoracic cage being sunked inwards. Then the subjects inhaled through their nostrils to their fullest expansion of lungs, thus expanding their thoracic cage. During exhalations a slight contract in the back of throat produced a sound “ahhh”. On inhalation maintain the slight constructions of the throat that produced ocean sound, softly moving in and out like ocean waves.

3.7.12 Kapalbhati Pranayama

This breathing technique involves passive inhalation and active exhalation. The subjects were asked to sit comfortably in padmasana with their hands placed on knees, back upright and eyes looking straight ahead. Now take a deep breath followed by quick exhalation that produces a puffing sound. The exhalation should be done forcefully through the nose, pushing the abdominal muscles inward simultaneously, followed by a short and passive inhalation. Now quickly perform the next exhalation continuously to a rhythm.

3.7.13 Dot Tratak

A chart of dot tratak was prepared by the investigator. For this purpose a white chart paper was arranged and a black dot of a coined size was painted in a circular shape at the center portion of the chart. The subjects sat in any meditative pose; the chart was placed in front of the direct gaze of their eyes. The chart was hanged on the walls two to three feet away from the subjects. The subjects were told to close eyes and take a few deep breaths to relax themselves. The instructor commands the subjects to open their eyes and keep their focus at the painted black dot directly in line with the normal visual axis, till tears starts flowing. As soon as the tear begin to flow close the wide opened eyes (with or without cupped hands) for few moments and contemplate upon the image raising in the mental space (agyachakar) and then after relaxing your body resume the practice again.

3.7.14 Savasana (Corpse Pose)

The instructor commands the subjects to lie comfortably on the back with their legs stretched straight and slightly apart. Relax calf muscles to the inside of each leg. Keep your spine straight and shoulder down touching the floor. The arms should be placed

wide with palms facing upward. The eyes should be kept closed and concentration should be on breathing. Inhale and exhale slowly and allow the whole body to let go comfortably and relax. Now slowly deepen the breath as this brings attention into your body. Now gently move fingers, toes and other parts of body, feeling each part relaxed. Slowly open your eyes and move upward to get back into a normal position, you will feel a sense of relaxation entirely moving through your body.

3.8 Description of the Sports Training Programme

Sports training programme includes football, volleyball, tennis ball cricket, handball and badminton. The training schedule for experimental group 2 (sports training group) is mentioned in **Table: 3.5** and description of the each activity has been given below:

3.8.1 Football

Equipment required: One football

This is a sport that involves kicking a ball with the foot to score a goal. The subjects were divided equally into two teams and a match was played between them of two halves (i.e. each halves of 20 minutes, with 5 minutes of interval in between). The team that scored highest number of goals in the match was declared as winner.

3.8.2 Volleyball

Equipment required: One volleyball

This is a team sport in which two teams tries to score points by grounding a ball on the other team court under organised rules. The subjects were divided equally into two teams and then a match was organised of best of three sets between them. The team who won 2 sets was declared as a winner.

3.8.3 Tennis Ball Cricket

Equipment required: Tennis ball, bat, six stumps and abdomen guard.

This is a bat and ball game. The subjects were divided equally into two teams after which a match was organised between them. The team that scored highest run in the limited over was declared as the winner of that match.

3.8.4 Handball

Equipment required: Two handballs.

This is a team sports, the players pass a ball using their hands with the aim of throwing it into the goal post of the opponent team. The total subjects were distributed equally into two teams, a match was organized between them of two halves (i.e. each halves of 20 minutes, with 5 minutes of interval in between). The team that scored highest number of goals was declared as the winner of that competition.

3.8.5 Badminton

Equipment required: Four rackets and two shuttlecocks.

This is a racquet sports played using racquets to hit a shuttle cock across a net. The most common forms of the game are “singles” and “doubles” (with two players per side in doubles). The investigator have considered only doubles format in this training programme. The subjects were divided into five teams with each team comprising of two players. A match was played between them of best of three sets. The team who won two sets was declared as winner of the match.

3.9 Description of the Recreational Activity Training Programme

The training schedule for experimental group 3 (recreational activity training group) is mentioned in **Table: 3.6** and description of the each activity has been given below:

3.9.1 Cat and Mice

In this recreational activity subjects played character of the cat and mice. A post of eight feet square was marked for this activity, now at a distance of 8 meters in front of the post a safety line was marked. All of the subjects were placed behind the line and were named as mice. An extra subject was placed behind the post and was named as cat. At signal the mice approached towards the post and in the meantime cat steps out from the post and chases the mice who run towards the safety line. However, if cat touches the mice, it become kitten and joins the old cat behind the post. The kittens must stand behind the cat at the post and on the signal, they assists cat in catching the mice. In this way the game continued. The mice that was caught at last becomes cat for the next game.

3.9.2 Changing Seats

Investigator arranged the chairs and music system for performing this activity. The chairs were organised in a circle. The total number of chairs was one less to the total number of subjects. On the play of music, subjects revolved around the chairs and when the music stopped they immediately occupied the free chairs. The subject that did not get any chair to sit was eliminated from the game. Similarly the game was continued until there was only one subject left at the end. The last remaining subject was declared as the winner of particular activity.

3.9.3 Singing

All the subjects were divided equally into two teams and were named as team 'A' and team 'B'. Team 'A' announced name of any movie and then team 'B' sung a song of that movie, similarly after having their turn team 'B' announced a movie name and team 'A' sung a song of that movie. On singing a song accurately of the mentioned movie, each team was rewarded with five points and if they failed to sing a song of the mentioned movie, two points were subtracted from the total score of that team. The team who scored highest points was declared winner.

3.9.4 Drop the Handkerchief

All the subjects seated in a circle, now an extra player was appointed with a handkerchief in his hand outside the circle, on the signal he run around the circle and chooses a player, where he drops the handkerchief behind the back of that player. Now the player behind whom the handkerchief was dropped picks it up and runs in the direction behind the player who have thrown it, the chaser tries to touch the handkerchief to runner by throwing or directly touching it and if the runner escapes from this he occupies the vacate space. Now the chaser dropped the handkerchief behind the back of other player and similarly the game was continued in the same manner.

3.9.5 Elimination Ball

A playing area of fifteen meters square was marked. The subjects scatter in the playing area and the game was started by throwing the ball into the field of play. Each subject in the marked area tries to eliminate the other subject by hitting them with the ball. Any one of the subject if touched anywhere by the ball was declared out and was eliminated from the play. Once ball touched the ground it becomes dead, afterwards it

was picked and thrown by any other subject. During play if any subject stepped out of the play field intentionally or unintentionally was declared out. The game continued until only one subject was left and remaining were eliminated. The subject that survived till the end of play was declared as a winner of particular activity

3.9.6 Dance

A music system was arranged by the investigator and on the basis of the interest of the subjects, songs were played on this. On the play of songs subject dance individually one by one and then in the group, no rules and regulations were barred on the subjects.

3.9.7 Keep the Ball

A playing area of fifteen meters square was marked. All the subjects were divided equally into two teams. One team was named team 'blue' and other one was named team 'red', now both the teams were easily distinguishable and scattered over the playing area. Now the referee gives ball to team red. At signal, team red passes the ball among their teammates attempting to keep it away from team blue, who attempts to get it back. If any player keeps the ball for longer than five seconds, a foul was declared against that team and the ball was passed to the opposite team. In this manner the game continued until the final whistle was blown by the referee.

3.9.8 Duck Walk Race

An end line was marked, fifteen meters away from the starting line. The subjects were asked to get ready at the starting line. At the signal "go" the participants drops into a squat position with hands on the waist and then waddle towards the end line and then turn around and waddle back to the starting line. The participant who finished first was declared as a winner of that race.

3.9.9 Tug of War

The instructor divided the subjects into two equal teams, named as team 'green' and team 'yellow'. A long rope was arranged and a handkerchief was tied at the center point of that rope. A straight line was drawn on the surface area, perpendicular to the rope directly under the handkerchief. A five feet line was marked perpendicular to each side from the center point of the rope. Team 'green' was told to hold one end of the rope and the team 'yellow' holds the opposite end of the rope. Subjects hold the

rope from the marked five feet distance from the center point of the rope. On the signal both teams had to pull the rope until the handkerchief crosses the five-foot mark. The team that successfully pulls the other team behind, that restraining mark was declared as a winner of that contest.

3.9.10 Leap Frog

The instructor divided the subjects into two equal groups, a starting line was drawn and participants of both the teams faced in one direction standing one after the other in a straight line. On the signal of whistle subjects laid down on their knees keeping their back bending and hands forward on the ground. The last player of both the teams on whistle leaps over each of the player in front of him. When he finished his turn, he positioned himself in same stance while the other subjects performed their turns similarly until the subjects were back in their original position. The team that finished first was declared as winner.

3.9.11 Hill Dill

The playing area was divided into three parts by marked lines on the ground. The subjects were divided equally into two teams. As per the instruction both the teams stand in the two outside parts of the marked area, one in each, while a single player stands in the center part. When the player in the center shouts ‘hill dill’ comes over the hill’ the groups in the end space change places. The center player tries to tag as many as possible; those he does join him in the center to help him tag the others as they cross over. The child who remains untagged the longest is winner.

3.9.12 Busy Bee

Investigator assembled all the subjects in the play field and asked them to choose their partner. The subject in pairs followed the commands of the leaders such as stand side to side, back to back or link elbows. However, when the leader called out ‘busy bee’ each player had to find a new partner even the leader also. The unlucky subject that does not find any partner becomes leader and starts the activity again by giving different commands.

3.9.13 Sound and Action

All the subjects were instructed to sit in a semi-circle on the play field. The investigator faces the rest and narrated a story about birds and animals. Whenever a

bird name was mentioned, those who were seated down stood up and flapped their arms like wings of the birds five times and then they sat down again. On the other hand, whenever an animal name was mentioned subjects remained seated but produced a sound like the one made by the animal mentioned. Any subject who was not able to do the movements correctly or make a correct sound of the mentioned animal or who was slow in doing the right action was eliminated from the game. The subject that remained longest in the play was declared as a winner.

3.9.14 Leg Cricket

This game is quite similar to cricket, but in spite of cricket bat, leg is used for hitting the ball and in place of cricket ball, football is used for bowling purpose. The subjects were divided equally into two teams. The rules and regulations were made by the investigator keeping the interest of the players in consideration.

3.10 Composite Training Programme

The training schedule for experimental group 4 (composite training group) is mentioned in **Table: 3.7**. This training programme comprises of a mixture of selected yoga asana, pranayama, different techniques of meditation, recreational activity and sports.

3.11 Control Group

The control group was considered as the fifth group in this study. This group was not exposed to any type of training programme.

CHAPTER 4

RESULTS AND DISCUSSION

This chapter includes two different sections, first section interprets results of the study and the second section includes discussion of the results. The results sections of this study comprises viz., Pre and post-test mean, Analysis of Covariance, Hypotheses testing, Post-hoc comparisons and Adjusted mean values. The discussion of the results is explained in the later section of this chapter.

4.1 Result and Interpretation pertaining to Criminal Propensity

Table 4.1.1 Mean and Standard Deviation measuring Criminal Propensity among different Treatment groups during Pre and Post-testing

Measure : Criminal Propensity					
Treatment Groups	N	Pre-test Mean	SD	Post-test Mean	SD
Yoga	10	152.10	23.54	91.50	29.90
Sports	10	137.77	29.99	63.11	11.75
Recreational Activity	10	155.10	23.64	76.50	16.68
Composite	10	139.40	19.66	73.00	14.03
Control	10	150.10	14.96	126.00	.00

Table 4.1.1 represents the values of mean and standard deviation based on pre and post-test conducted among all the five treatment groups (yoga, sports, recreational activity, composite and control) to measure the criminal propensity of drug addicts.

The values pertaining to observed Mean and SD are as below:

Pre-test Mean: Yoga 152.10, Sports 137.77, Recreational Activity 155.10, Composite 139.40 and Control 150.10. **Pre-test SD:** Yoga 23.54, Sports 29.99, Recreational Activity 23.64, Composite 19.66 and Control 14.96. **Post-test Mean:** Yoga 91.50, Sports 63.11, Recreational Activity 76.50, Composite 73.00 and Control 126. **Post-test SD:** Yoga 29.90, Sports 11.75, Recreational Activity 16.68, Composite 14.03 and Control .00 respectively.

Figure 4.1.1

Graphical Presentation of Pre and Post-test Means of Yoga, Sports, Recreational Activity, Composite and Control group measuring Criminal Propensity among Drug Addicts

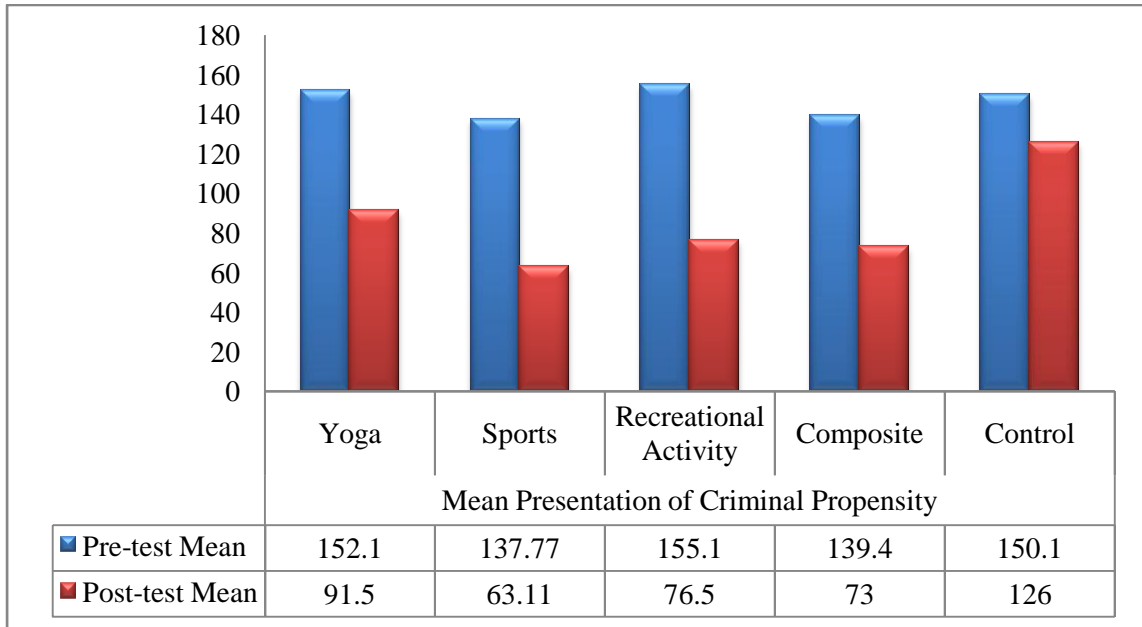


Table 4.1.2

Analysis of Co-Variance for four Experimental groups and one Control group on Criminal Propensity

Source	Sum of Squares	df	Mean Square	F	(<i>p</i> -value)Sig.
Pre	835.942	1	835.942	2.684	.109
Treatment	22801.41	4	5700.353	18.299	.000*

Note: *p*-value < .05 indicates significant difference

***indicates significant difference**

Table 4.1.2 presents the F-value for comparing the adjusted means in five treatment groups (yoga, sports, recreational activity, composite and control) during post testing on criminal propensity. Since *p*-value for the F-statistic is .000 which was statically significant at 0.05 level. Thus, the $H_{(0)}$ “There exists no significant difference among the adjusted post-test means of criminal propensity among five treatment groups” was failed to be get accepted. Therefore, the research hypothesis $H_{(1)}$ “There exists a significant difference in the selected training programme of yoga, sports, recreational activity, composite and control group for managing criminal propensity of the drug addicts” stand accepted. Furthermore, since F-statistic is significant, post hoc comparison was made for the adjusted means of the five treatment groups during post testing of criminal propensity among drug addicts. The results are shown in **Table 4.1.3**.

Table 4.1.3

Post-hoc comparison of differences between the Adjusted Post-tests Paired Means of Experimental groups and Control group measuring Criminal Propensity

Pair wise Comparisons: Criminal Propensity			
(I) Treatment	(J) Treatment	Mean Difference (I-J)	Sig. (<i>p</i>)
Yoga	Sports	27.795*	.002
	Recreational Activity	15.124	.062
	Composite	17.974*	.030
	Control	34.583*	.000
Sports	Recreational Activity	12.671	.137
	Composite	9.822	.233
	Control	62.378*	.000
Recreational Activity	Composite	2.849	.727
	Control	49.707*	.000
Composite	Control	52.557*	0.00

Note: $p < .05$ indicates significant difference

*** indicates significant difference**

Comparison of groups with Significant Difference:

It is evident from **Table 4.1.3** that p -value for the mean difference between yoga and sports group was .002; yoga and composite group was .030; yoga and control group was .000; sports and control group was .000; recreational activity and control group was .000 and lastly composite and control group was .005. All the values are within the threshold limit i.e., $p < .05$. Hence, are considered to be significant at 5% level of significance.

Thus, based on the above findings following conclusions were drawn:

- There was a significant difference between the adjusted mean scores of the various groups viz., yoga and sports; yoga and composite; yoga and control.
- There was a significant difference between the adjusted mean score of the sports and control group.
- There was a significant difference between the adjusted mean score of the recreational activity and control group.
- There was a significant difference between the adjusted mean score of the composite and control group.

Comparison of Groups with Insignificant Difference:

Further, **Table 4.1.3** reveal that p -value for the mean score difference between yoga and recreational activity group was .062; sports and recreational activity group was .137; sports and composite group was .233; recreational activity and composite group was .727 respectively. All the values are above the threshold limit i.e., $p > .05$. Hence, are considered to be insignificant at 5% level of significance.

Thus, based on above findings following conclusion were drawn:

- There was no significant difference between the adjusted mean score of yoga and recreational activity group.
- There was no significant difference between the adjusted mean score of various groups viz., sports and recreational activity; sports and composite.
- There was no significant difference between the adjusted mean score of recreational activity and composite group.

Table 4.1.4

Adjusted Means among different Treatment groups measuring Criminal Propensity

Group	Group	Group	Group	Group
Sports	Composite	Recreational Activity	Yoga	Control
63.49	73.31	125.87	76.16	91.29

“” represents no significant difference between adjusted means

Table 4.1.4 shows the adjusted mean values of different treatment groups in ascending order viz., sports 63.49, composite 73.31, recreational activity 76.16, yoga 91.29 and control group 125.87. There was a significant difference of all the treatment groups with the control group as the $p < .05$. It was noted that there was no significant difference in the adjusted mean scores of the various groups viz., sports and composite; sports and recreational activity; composite and recreational activity; yoga and recreational activity. Hence it may be inferred that treatment groups viz; sports, composite, recreational activity were equally effective, while as treatment groups yoga and recreational activity were also equally effective in reducing the criminal propensity among drug addicts in comparison to that of the control group. However a significant difference was found in the adjusted mean scores among different treatment groups viz., yoga and sports; yoga and composite. The adjusted mean score of sports group was 63.49 and composite group was 73.31 which was less in comparison to adjusted mean scores of yoga group 91.29. Thus, sports group and composite group were found to be better as compared to the yoga group. Furthermore, the adjusted mean value of sports group was found to be least, thus sports group was considered the most effective treatment group and control group was the least effective treatment group in reducing criminal propensity among the subjects.

4.2 Result and Interpretation pertaining to Aggression

Table 4.2.1

Mean and Standard Deviation measuring Aggression among different Treatment groups during Pre and Post-testing

Measure : Aggression					
Training Groups	N	Pre-test Mean	SD	Post-test Mean	SD
Yoga	10	91.00	6.71	74.70	13.54
Sports	10	93.10	10.81	76.70	13.01
Recreational Activity	10	87.50	8.84	88.60	12.05
Composite	10	92.80	9.12	65.80	8.53
Control	10	97.00	6.14	90.88	16.12

Table 4.2.1 represents the values of mean and standard deviation based on pre and post-test conducted among all the five treatment groups (yoga, sports, recreational activity, composite and control) to measure aggression of drug addicts. The values pertaining to observed Mean and SD are as below:

Pre-test Mean: Yoga 91.00, Sports 93.10, Recreational Activity 87.50, Composite 92.80 and Control 97.00. **Pre-test SD:** Yoga 6.71, Sports 10.81, Recreational Activity 8.84, Composite 9.12 and Control 6.14. **Post-test Mean:** Yoga 74.40, Sports 76.70, Recreational Activity 88.60, Composite 65.80 and Control 90.88. **Post-test SD:** Yoga 13.54, Sports 13.01, Recreational Activity 12.05, Composite 8.53 and Control 16.12.

Figure 4.2.1

Graphical Presentation of Pre and Post-test Means of Yoga, Sports, Recreational Activity, Composite and Control group measuring Aggression among Drug Addicts

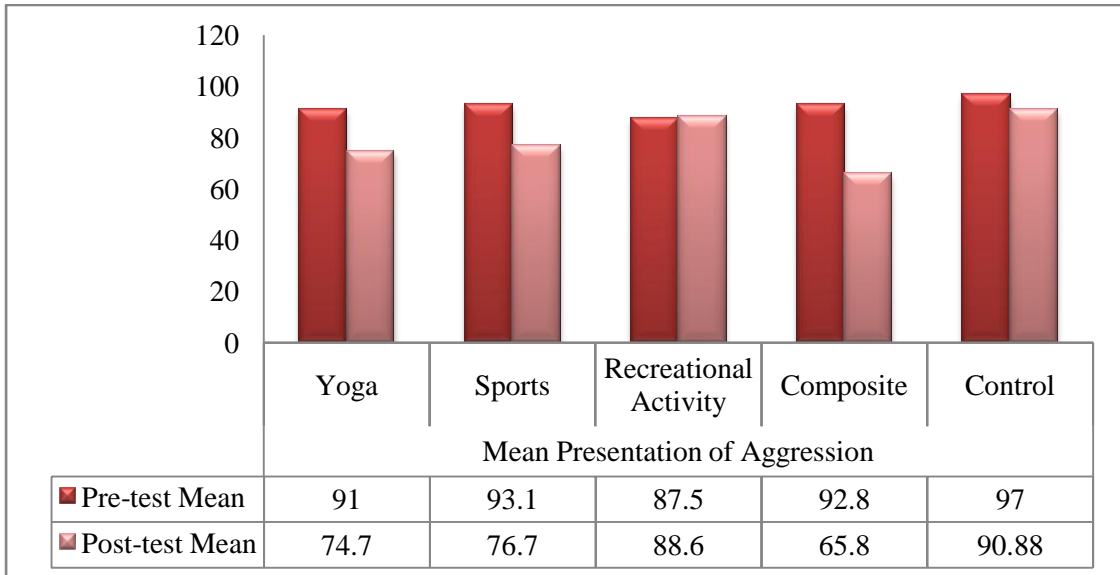


Table 4.2.2

Analysis of Co-Variance for four Experimental groups and one Control group on Aggression

Source	Type I Sum of Squares	df	Mean Square	F	(p-value)Sig.
Pre	42.109	1	42.109	.252	.618
Treatment	4175.947	4	1043.987	6.259	.000*

Note: p -value < .05 indicates significant difference

***indicates significant difference**

Table 4.2.2 presents the F-value for comparing the adjusted means of the five treatments groups (yoga, sports, recreational activity, composite and control) during post testing on aggression. Since p -value for the F-statistic is .000 which was significant at 0.05 level of significance. Thus, the $H_{(0)}$ “There exists no significant difference among the adjusted post-test means of aggression among five treatment groups” was failed to get accepted. Therefore, the research hypothesis $H_{(2)}$ “There exists a significant difference in the selected training programme of yoga, sports, recreational activity, composite and control group for managing aggression of the drug addicts” stand accepted. Furthermore, since F-statistic is significant, post hoc comparison has been made for the adjusted means of the five treatment groups during post testing of aggression among drug addicts. The results are shown in **Table 4.2.3**.

Table 4.2.3

Post-hoc comparison of differences between the Adjusted Post-tests Paired Means of Experimental groups and Control group measuring Aggression

Pair wise Comparisons: Aggression			
(I) Treatment	(J) Treatment	Mean Difference (I-J)	Sig.
Yoga	Sports	1.753	.764
	Recreational Activity	14.312*	.018
	Composite	9.112	.123
	Control	15.482*	.015
Sports	Recreational Activity	12.560*	.040
	Composite	10.865	.067
	Control	13.729*	.027
Recreational Activity	Composite	23.425*	.000
	Control	1.169	.854
Composite	Control	24.594*	.000

Note: $p < .05$ indicates significant difference

***indicates significant difference**

Comparison of Groups with Significant Difference:

It is showed in **Table 4.2.3** that p -value for the mean difference between yoga and recreational activity group is .018; yoga and control group is .015; sports and recreational activity group is .040; sports and control group is .027; recreational activity and composite group is .000; and lastly composite and control group is .000.

All the values are within threshold limit i.e., $p < .05$. Hence, they are considered to be significant at 5% level of significance.

Thus, based on above findings the following conclusions were made:

- There was a significant difference between the adjusted mean scores of the various groups viz., yoga and recreational activity; yoga and control.
- There was a significant difference between the adjusted mean scores of the various groups viz., sports and recreational activity; sports and control.
- There was a significant difference between the adjusted mean scores of the recreational activity and composite group.
- There was a significant difference between the adjusted mean score of the composite and control group.

Comparison of Groups with Insignificant Difference:

Further, **Table 4.2.3** reveal that p -value for the mean difference between yoga and sports group is .764; yoga and composite group is .123; sports and composite group is .067; and lastly recreational activity and control group is .854. All the values are above the threshold limit i.e., $p > .05$. Hence, they are considered to be insignificant at 5% level of significance.

Thus, based on the above findings following conclusion were drawn:

- There was no significant difference between the adjusted mean score of yoga and sports group; yoga and composite group.
- There was no significant difference between the adjusted mean score of sports and composite group.
- There was no significant difference between the adjusted mean score of recreational activity and control group.

Table 4.2.4

Adjusted Means among different Treatment groups measuring Aggression

Group	Group	Group	Group	Group
Composite	Yoga	Sports	Recreational Activity	Control
65.72	74.84	76.59	89.50	90.32

“” indicates no significant difference between adjusted means

Table 4.2.4 shows the adjusted mean values of different treatment groups in ascending order viz., composite 65.72, yoga 74.84, sports 76.59, recreational activity 89.50 and control 90.32. There was a significant difference of all the treatment groups excluding recreational activity group with the control group as the $p < .05$. It was noted that there was no significant difference in the adjusted mean scores of the various groups viz., composite and yoga; composite and sports; yoga and sports; recreational activity and control. Hence it may be inferred that treatment groups viz; composite, yoga and sports are equally effective, while treatment group recreational activity and control group were also found to be equally effective in reducing aggression level of the drug addicts. However a significant difference was found in the adjusted mean scores among different treatment groups viz., composite, yoga and sports in comparison to the recreational activity and control group respectively. The adjusted mean score of the different treatment groups including composite 65.72, yoga 74.84 and sports 76.59 was less in comparison to adjusted mean scores of recreational activity 89.50 and control group 90.32. Thus composite, yoga and sports group were found to be better in comparison to the recreational activity and control group. Whereas adjusted mean value of composite group was found to be least, thus composite group was considered the most effective treatment group and control group was the least effective treatment group in reducing aggression among the subjects.

4.3 Result and Interpretation pertaining to Loneliness

Table 4.3.1

Mean and Standard Deviation measuring Loneliness among different Treatment groups during Pre and Post-testing

Measure : Loneliness					
Training Groups	N	Pre-test Mean	SD	Post-test Mean	SD
Yoga	10	135.40	8.66	100.90	16.71
Sports	10	134.80	12.66	98.20	14.92
Recreational Activity	10	130.70	12.46	102.00	13.71
Composite	10	128.90	6.24	101.30	12.59
Control	10	125.20	8.74	117.50	11.95

Table 4.3.1 represents the values of mean and standard deviation based on pre and post- test conducted among all the five treatment groups (yoga, sports, recreational activity, composite and control) to measure loneliness of drug addicts. The values pertaining to observed Mean and SD are as below:

Pre-test Mean: Yoga 135.40, Sports 134.80, Recreational Activity 130.70, Composite 128.90 and Control 125.20. **Pre-test SD:** Yoga 8.66, Sports 12.66, Recreational Activity 12.46, Composite 6.24 and Control 8.74. **Post-test Mean:** Yoga 100.90, Sports 98.20, Recreational Activity 102.00, Composite 101.30 and Control 117.50. **Post-test SD:** Yoga 16.71, Sports 14.92, Recreational Activity 13.71, Composite 12.59 and Control 11.95.

Figure 4.3.1

Graphical Presentation of Pre and Post-test Means of Yoga, Sports, Recreational Activity, Composite and Control group measuring Loneliness among Drug Addicts

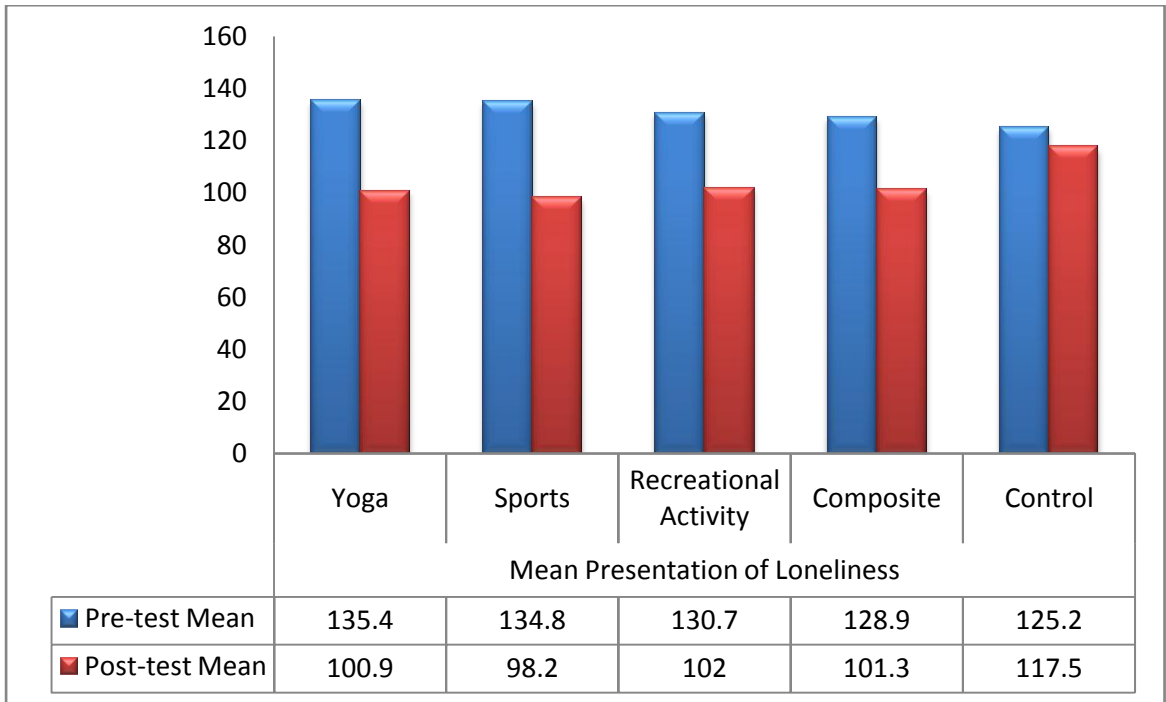


Table 4.3.2

Analysis of Co-Variance for four Experimental groups and one Control group on Loneliness

Source	Type I Sum of Squares	df	Mean Square	F	(p-value)Sig.
Pre	251.97	1	251.97	1.24	.271
Treatment	2117.17	4	529.29	2.60	.048*

Note: *p*-value < .05 indicates significant difference

***indicates significant difference**

Table 4.3.2 presents the F-value for comparing the adjusted means of the five treatments groups (yoga, sports, recreational activity, composite and control) during post-testing on loneliness. Since *p*-value for the F-statistic is .048 which was statically significant at 0.05 level of significance. Thus, the $H_{(0)}$ “There exists no significant difference among the adjusted post-test means of loneliness among five treatment groups” was failed to be get accepted. Therefore, the research hypothesis $H_{(3)}$ “There exists a significant difference in the selected training programme of yoga, sports, recreational activity, composite and control group for managing loneliness of the drug addicts” stand accepted. Furthermore, since F-statistic is significant, post hoc comparison has been made for the adjusted means of the five treatment groups during post testing of loneliness among drug addicts. The results are shown in **Table 4.3.3**.

Table 4.3.3

Post-hoc comparison of differences between the Adjusted Post-tests Paired Means of Experimental groups and Control group measuring Loneliness

Pair wise Comparisons: Loneliness			
(I) Treatment	(J) Treatment	Mean Difference (I-J)	Sig.
Yoga	Sports	2.710	.673
	Recreational Activity	1.022	.875
	Composite	.292	.964
	Control	16.430*	.019
Sports	Recreational Activity	3.732	.565
	Composite	3.002	.646
	Control	19.140*	.006
Recreational Activity	Composite	.730	.909
	Control	15.408*	.022
Composite	Control	16.138*	.016

Note: $p < .05$ indicates significant difference

***indicates significant difference**

Comparison of Groups with Significant Difference:

It is shown in **Table 4.3.3** that p -value for the mean difference between yoga and control group is .019; sports and control group is .006; recreational activity and control group is .022, composite and control group is .016. All the values are within threshold limit i.e., $p < .05$. Hence, they are considered to be significant at 5% level of significance.

Thus based upon all this the following conclusion were drawn:

- There was a significant difference between the adjusted mean score of the yoga, sports, recreational activity and composite group in comparison of the control group.

Comparison of Groups with Insignificant Difference:

Further, **Table 4.3.3** reveal that p -value for the mean difference between yoga and sports group is .673; yoga and recreational activity group is .875; yoga and composite group is .964; sports and recreational activity group is .565; sports and composite group is .646; and lastly recreational activity and composite group is .909. All the values are above the threshold limit i.e., $p > .05$. Hence, are considered insignificant at 5% level of significance.

Thus, based on the above findings following conclusions were drawn:

- There was no significant difference between the adjusted mean score of the yoga and sports group; yoga and recreational activity group; yoga and composite group.
- There was no significant difference between the adjusted mean score of the sports and recreational activity group; sports and composite group.
- There was no insignificant difference between the adjusted mean score of the recreational activity and composite group.

Table 4.3.4

Adjusted Means among different Treatment groups measuring Loneliness

Group	Group	Group	Group	Group
Sports	Yoga	Composite	Recreational Activity	Control
98.26	100.97	101.26	101.99	117.40

“” represents no significant difference between adjusted means

Table 4.3.4 shows the adjusted mean values of different treatment groups in ascending order viz., sports 98.26, yoga 100.97, composite 101.26 recreational activity 101.99, and control 117.40. There was a significant difference of all the treatment groups with the control group as the $p < .05$. It was noted that there was no significant difference in the adjusted mean scores of the various groups viz., sports and yoga; sports and composite; sports and recreational activity; yoga and composite; yoga and recreational activity and lastly composite and recreational activity. Hence it may be inferred that treatment groups viz; sports, yoga, composite and recreational activity were equally effective in reducing the loneliness among drug addicts in comparison to that of the control group. However a significant difference was found in the adjusted mean scores among different treatment groups viz., sports, composite, yoga and recreational activity in comparison of the control group. Furthermore, adjusted mean score of the sports group 98.26 was slightly better compared to other treatment groups. Thus, based on the above findings sports group is the most effective treatment group and control group is the least effective treatment group in reducing loneliness among the subjects.

4.4 Result and Interpretation pertaining to Psychological Well Being

Table 4.4.1

Mean and Standard Deviation measuring Psychological Well Being among different Treatment groups during Pre and Post-testing

Measure : Psychological Well Being					
Training Groups	N	Pre-test Mean	SD	Post-test Mean	SD
Yoga	10	133.20	25.83	190.30	20.79
Sports	10	125.70	9.08	183.00	29.38
Recreational Activity	10	127.10	18.59	186.50	29.74
Composite	10	147.40	29.04	187.70	20.47
Control	10	159.70	14.56	171.70	10.625

Table 4.4.1 represents the values of mean and standard deviation based on pre and post-test conducted among all the five treatment groups (yoga, sports, recreational activity, composite and control) to measure psychological well being of drug addicts. The values pertaining to observed Mean and SD are as below:

Pre-test Mean: Yoga 133.20, Sports 125.70, Recreational Activity 127.10, Composite 147.40 and Control 159.70. **Pre-test SD:** Yoga 25.83, Sports 9.08, Recreational Activity 18.59, Composite 29.04 and Control 14.56. **Post-test Mean:** Yoga 190.30, Sports 183.00, Recreational Activity 186.50, Composite 187.70 and Control 171.70. **Post-test SD:** Yoga 20.79, Sports 29.38, Recreational Activity 29.74, Composite 20.47 and Control 10.625.

Figure 4.4.1

Graphical Presentation of Pre and Post-test Means of Yoga, Sports, Recreational Activity, Composite and Control group measuring Psychological Well Being among Drug Addicts

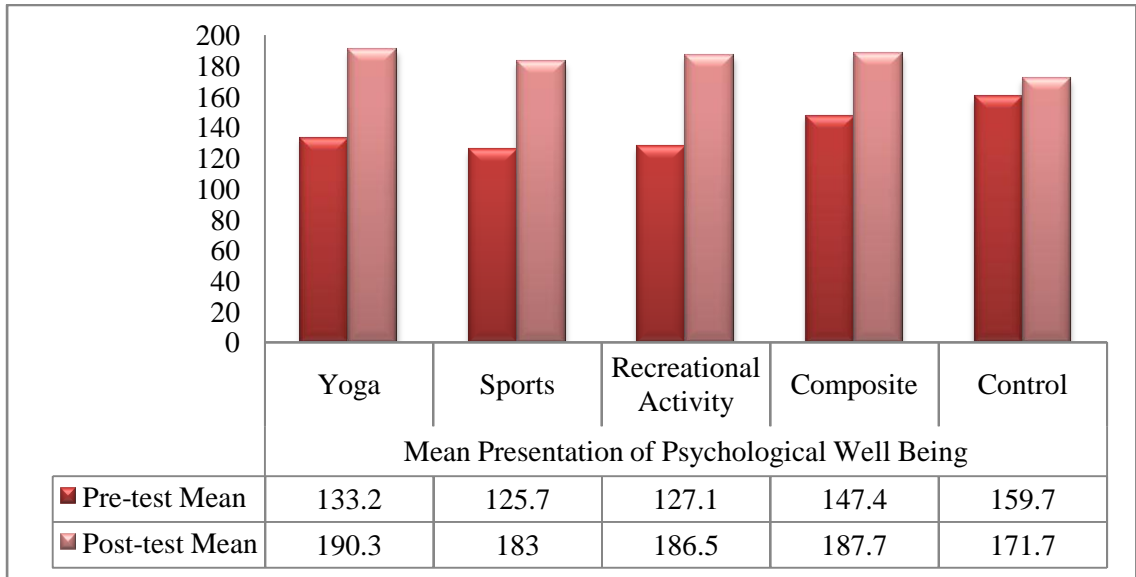


Table 4.4.2

Analysis of Co-Variance for four Experimental groups and one Control group on Psychological Well Being

Source	Type I Sum of Squares	df	Mean Square	F	(p-value)Sig.
Pre	1558.71	1	1558.71	2.89	.096
Treatment	1313.76	4	328.44	.611	.657

Note: p -value > .05 indicates no significant difference

***indicates significant difference**

Table 4.4.2 presents the p -value for the F statistic for comparing the adjusted means of the five treatment groups (yoga, sports, recreational activity, composite and control) during post-testing of psychological well being. Since p -value for the F-statistic was .657, which was statistically insignificant at 0.05 level. Thus, the $H_{(0)}$ “There exists no significant difference among the adjusted post-test means of psychological well being among five treatment groups” was failed to get rejected. Since $p > 0.05$ level of significance, thus no post-hoc comparison was carried out to find the degree of difference between the adjusted means of five treatment groups on the psychological well being of drug addicts.

4.5 Result and Interpretation pertaining to Personality

Table 4.5.1

Mean and Standard Deviation measuring Personality among different Treatment groups during Pre and Post-testing

Measure : Personality					
Training Groups	N	Pre-test Mean	SD	Post-test Mean	SD
Yoga	10	37.80	4.91	38.10	3.28
Sports	10	38.60	4.99	40.50	2.99
Recreational Activity	10	35.80	2.39	38.00	3.19
Composite	10	38.40	2.83	39.30	3.12
Control	10	39.30	4.69	38.90	5.50

Table 4.5.1 represents the values of mean and standard deviation based on pre and post-test conducted among all the five treatment groups (yoga, sports, recreational activity, composite and control) to measure personality of drug addicts. The values pertaining to observed Mean and SD is given below:

Pre-test Mean: Yoga 37.80, Sports 38.60, Recreational Activity 35.80, Composite 38.40 and Control 39.30. **Pre-test SD:** Yoga 4.91, Sports 4.99, Recreational activity 2.39, Composite 2.83 and Control 4.69. **Post-test Mean:** Yoga 38.10, Sports 40.50, Recreational Activity 38.00, Composite 39.30 and Control 38.90. **Post-test SD:** Yoga 3.28, Sports 2.99, Recreational Activity 3.19, Composite 3.12 and Control 5.50.

Figure 4.5.1

Graphical Presentation of Pre and Post-test Means of Yoga, Sports, Recreational Activity, Composite and Control group measuring Personality among Drug Addicts

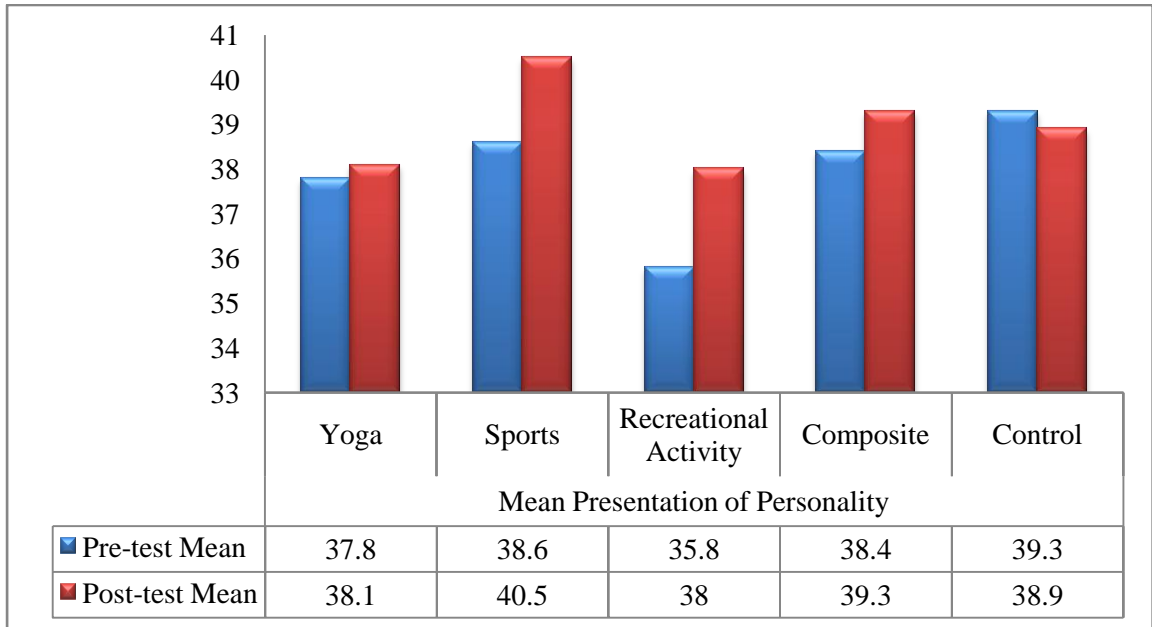


Table 4.5.2

Analysis of Co-Variance for four Experimental groups and one Control group on Personality

Source	Type I Sum of Squares	df	Mean Square	F	(p-value)Sig.
Pre	.044	1	.044	.003	.956
Treatment	43.436	4	10.859	.760	.557

Note: p -value > .05 indicates no significant difference

***indicates significant difference**

Table 4.5.2 presents the p -value for the F statistic for comparing the adjusted means of the five treatment groups (yoga, sports, recreational activity, composite and control) during post-testing on personality. Since p -value for the F-statistic was .557, which was statically insignificant at 0.05 level of significance. Thus, $H_{(0)}$ “There exists no significant difference among the adjusted post-test means of personality among five treatment groups” was failed to get rejected. Since $p > 0.05$ level of significance, thus no post-hoc comparison was carried out to find the degree of difference between the adjusted means of different treatment groups on the personality of drug addicts.

4.6 Discussion of the Results

4.6.1 Discussion pertaining to the impact of Sports on Criminal Propensity

It is evident from **Table 4.1.4** that the values of adjusted mean scores of the criterion variable in different treatment groups are shown in the ascending order. The observed adjusted mean values of different treatment groups viz., sports 63.49, composite 73.31, recreational activity 76.16, yoga 91.29 and control group 125.87. Thus, based on these adjusted mean values criminal propensity among sports, composite, recreational activity and yoga group is significantly less than that of the control group. Hence, it is inferred that these four different programmes are equally effective in reducing criminal propensity among the subjects in comparison to that of the control group. However, experiment group 2 (sports group) was found to be most effective programme in reducing the level of criminal propensity, comparison to the experimental group 1 (yoga group), experimental group 3 (recreational activity group), experimental group 4 (composite group) and experimental group 5 (control group). The above findings are persistent with prior studies of Leblane and Dickson (as cited in Dorak et al., 2012) which reveal that if children are provided with the required environment for getting engaged in sports, they will also prefer to get involved in sports rather than doing any other activity which is harmful for their psychological and physical well-being. Children acquire social behaviours by participating in organised sports environment and this ensures their detachment from anti social behaviour (Rutten et al., 2007). Sport activities provide an active platform for children that subsequently lead to the development of physical and mental health (Dorak et al., 2012). Furthermore, Nichols (1997) reviewed various evidences contributing in the management of crime, however the support concerning the effectiveness of sports and leisure activity in reducing crime has little evidence. Conversely to this, multiple studies have supported sports as a panacea for offenders by diverting their propensity from crime. As per Coalter, (1988); Taylor et al. (1999); West and Crompton (2001), (as cited in Ehansi, 2012) emphasised on sports related activities to reduce recidivism and rehabilitate offenders. These programmes include active outdoor sports activities aimed to improve personnel and social skills, self sufficiency and self confidence. It is believed that such sports programmes can easily counter the offending behaviour. This has been often questioned to what extent does sports factually acts as a tool for the reduction of crime and anti social behaviour?

(Long et al., 2002; Nichols & Crow, 2004; Nichols, 2004; Coalter, 2007). The present research has empirically established the potentiality of sports for the prevention and reduction of criminal propensity among drug addicts. These findings get support from various studies with a well documented boon that have considered sports as a mechanism through which the prevention and reduction of crime can be done (Nichols & Crow, 2004; Bailey, 2005; Collins & Kay; 2003, Coalter; 2007). In a broader context to this, Coalter (2007) stated that the role of sports in the prevention of crime is bifurcated into two broad categories, the first one is prevention of crime and the second one is rehabilitation of offenders. In this context, Nichols (2004) identified diversion of offenders as the simplest mechanism to reduce offending behavior. This requires taking a person away from a play where there is probability of them to acquire criminal behaviour. This act creates a diversion from boredom and prevents them from acts that are criminal by nature (Nichols & Crow, 2004). The positive results pertaining to sports are also linked with negative outcomes that includes violence, aggression, drug abuse, cheating and crime. In regard to this, Newburn (2007) considered drug abuse as a main form in terms of anti social behaviour. Moreover, Fraser, Cote, and Deakin (2005) specified violence, aggression, low confidence and self esteem as the negative outcomes of sports. In addition, sports programmes have been unable to change young generation attitudes towards underage drinking (Brettschneider, 2001), which is considered a form of anti social behaviour as mentioned by Newburn (2007). However, these negative outcome results of sports by no means outweigh its positive benefits potentiality.

4.6.2 Discussion pertaining to the impact of Composite Training Programme on Aggression

Drug users are associated frequently with aggressive human behaviour. In the last one decade a comprehensive study on their link up have been thoroughly reviewed. The result shows heroin and cocaine to be linked strongly with aggressive behaviour and withdraw of methamphetamine also leads to aggressive behaviour (Tomlinson et al., 2016; Phil & Satton, 2009). Further, Person struggling badly with drug abuse and aggressive behaviour behaves in an irresponsible manner and that is linked up as a major social problem (Hammersley, 2011). In this regard, Skara et al. (2010) concluded that physical aggression and relational aggression are predictive of

subsequent drugs use and provides important guidelines in the prevention and intervention programme for its control.

The results of Analysis of Covariance **Table 4.2.2** demonstrate significant difference among different experimental groups at the post-test stage of aggression. Since *p*-value for the F-statistic at .000 was statically significant at 0.05 level, thus post hoc analysis was conducted to find out the direction of difference. All the treatment groups excluding recreational activity exhibit significant difference with control group. However, the adjusted post-test mean value of aggression in the composite group was lesser than that of the sports, yoga and recreational activity groups. The above findings confirms that the treatment of composite, yoga and sports helps in lowering the aggression of the subjects, while the recreational activity and control groups fluctuated around the same level. Earlier research studies on human aggression and violent behaviour have considered varied sample sizes, intervention periods, diverse age groups of both sexes and different forms of aggression on normal as well as high-risk individuals (Park et al., 2017; Skara et al., 2008). The investigator have reviewed the existing literature and revealed the need to conduct a composite treatment programme comprising of selected yoga, sports and recreational activities, as no such study included such a varied form of treatment programme. Hence, this was found to be a subject of research gap and an area of interest for the investigator. The findings of the study suggest that composite group was the best treatment group in reducing aggression among the drug addicts. This could be the result of peculiar engagement of the subjects with a varied form of activities. However, empirical evidence regarding the potential benefits of composite treatment comprising yoga, sports and recreational activity in reducing aggression among the drug addicts are scant. Although some studies on adolescents aggressive behaviour have claimed that adolescent aggression level can be reduced if they find gratification in their daily routine activities (Proctor, Linley, & Maltby, 2009; Valois, Paxton, Zullig & Huebner, 2006) and satisfaction in their leisure time activities (Misra & McKean, 2000). It is very difficult to come out with precise results of literature regarding a composite treatment programme comprising yoga, sports and recreational activity in countering aggression among the subjects. Thus, the investigator had conceptualised the review framework from different studies and mentioned the potentiality of yoga, sports and recreational activities in countering aggression. In this regard, Prabhavananda (2003)

stated that yoga is the holistic art of slowing and culturing the mind, body and emotions. The Practitioner of yoga becomes calm with a increased self awareness, clarity of thoughts, and control over emotions, thus correcting individual mental, physical and emotional aspects. In addition, Twemlow, Sacco, and Fonagy (2008) have recommended yoga, outdoor games and martial arts to addressed individuals aggressive behaviour. Furthermore, the practice of asana brings firmness to the body, eliminates the rajoguna or the oscillating character of the mind and makes the mind steady. While as the practices of pranayama involves breath control that leads in the mental calmness and tranquility of the nervous system. This shifts the paradigm of the body and mind towards tolerance. The practices of dhyana concentrate the mind and focused mind works efficiently, which is an inseparable part of our intellect. A relaxed body and mind is the best state of health. Hence the sole aim of asana, pranayama and dhyana is the union of body with mind, happiness, calmness, cheerfulness and self satisfaction, thus leaving no conflicts with the self. This enables an individual to accept criticism, solving problems intelligently and learns self control, which overcomes fear, anger, hate and sadness (Sharma, 2004). The findings of the present study is in line with the findings of Deshpande, Nagendra, and Raghuram (2008) as they observed yoga, asana, pranayama and meditation significantly reduced the verbal aggression in normal healthy adults. The other dimensions in composite treatment programme for the present study were sports and recreational activity. In this context, Park et al. (2017) examined that extra-curricular sports activities and leisure satisfaction leads towards a significant decrease in the slope of aggression. Furthermore, William (2002) observed a low rate of antisocial behaviour among participants that engaged in structured leisure activities as compared to non-participants. Also, Nichols (1997) identified that sports keep youth busy, out of trouble and meet needs that youth feels for getting excited. The findings of the study revealed that recreational activity and control group were the least effective in reducing aggression among the subjects. These results are consistent with the recent study of Singh (2016h) that reveal no significant difference of aggression between recreational activity and control group. However, several other factors are supposed to mediate aggression of drug addicts which are not under the control of present investigator. Thus, the findings of the study determine the promising role of composite treatment for reducing aggression among drug addicts. Therefore, results of

the study contribute to the literature by improvising the treatment programme in tackling aggression among the drug addicts.

4.6.3 Discussion pertaining to the impact of Sports on Loneliness

The results of Analysis of Covariance **Table 4.3.2** demonstrate significant difference among different experimental groups at the post-test stage of loneliness. Since p -value for the F-statistic at .048 was statically significant at 0.05 level of significance, thus post hoc analysis was conducted to find out the direction of difference. All the treatment groups exhibit significant difference with control group as the $p < .05$. The above findings confirm that the treatment programme of sports, composite, recreational activity and yoga helps in lowering loneliness of the subjects. However, the adjusted post-test mean value of loneliness in the sports group was lesser than that of the other treatment groups. Therefore, based on these findings sports was considered as the most effective treatment programme, while as yoga was the least effective treatment programme in reducing loneliness among subjects. Drug abuse had a prevailing impact on the loneliness of an individual (Olmstead et al., 1991). Research in this area identified that loneliness among drug addicts is to a greater extent as compared to general population (Akerlind & Hornquist, 1992; Daley & Salloum (as cited in Ott, Tarter and Ammerman, 1999). Regarding this notion, Rokach (2005) suggested that loneliness is at rampant among drug addicts because they are not able to cope with this efficiently as comparable to general population. Thus, to meet up with this distress problem different treatment programmes were implemented among different groups. The findings shows treatment group that involves participation in sports activities was found to be slightly better as compared to other treatment programmes. These findings run parallel to those reported by Haugen et al. (2013) in which they have concluded that participation in sports prevent or reduce loneliness feeling by improving perception of social competence elicited by social recognition, good peer relationship, social skill learning and feeling to connectedness. Contrary to this, there are few studies that have reported an inverse relationship between sports participation and loneliness (Page et al., 1992). However, channels underlying this relationship have not completely understood this (Haugen et al., 2013). To explore loneliness it is important to understand social context aspects of sports participation (Goosens & Beyers, 2002). The investigator observed that sports participation creates opportunities for friendship, improves cohesion among peers

(Fletcher et al., 2003) develops social self-perception (Harter, 1999) and decreases feeling of loneliness (Page et al., 1992). Hence, a satisfactory social domain life is reflected among peers through a positive social relationship (Hymel et al., 1990; Parker & Asher, 1987). Participation in sports has fulfilled individual social appetite which is directly linked with lower level of loneliness (Haugen et al., 2013). However, several other factors like perception ability, language barrier, poor level of understanding, state of mind during data collection of the subjects can influence dramatically outcome of the results and this cannot be controlled by the investigator. Furthermore, keeping in mind these limitations investigator has given its best to minimise the effect of the intervening variables so that a factual outcome of the results can be find out. Thus, based on the findings it can be concluded that sports is pivotal for the management of loneliness among drug addicts by increasing a sense of belongingness and social cohesiveness among peers.

4.6.4 Discussion pertaining to the impact of Yoga, Sports and Recreational activity on Psychological Well Being

The results of Analysis of Covariance **Table 4.4.2** shows no significant difference among different experimental groups at the post-test stage of psychological well being. Since *p*-value for the F-statistic at .657 was statically insignificant at 0.05, thus no post hoc comparison was carried out to find out degree of difference between the adjusted means of different treatment groups (yoga, sports, recreational activity, composite and control). The findings of the results are similar to that of Gurik (2012) that examined the relationship of physical activity and psychological well being among a total of 65 subjects between 18 to 40 years of age group, which come out with a conclusion that physical activity has a week positive correlation with psychological well being. Furthermore, physical activity also reduces psychological stress but as an intervention programme for drug it hasn't proved to be affective. In regard to the beneficial effect of physical activity there is relatively less research contributing to the benefits of sport participation with regard to social and mental health, thus it was recommended that sport participation association with psychosocial health requires to be further investigated (Eime et al., 2013). Contrary to these findings Ehansi et al. (2012) observed inherent compatible core values in sports leads to development of multiple life skills, thus empowering with an improved psychological well being in individuals. These features are beneficial among all ages

of people especially for the young ones. In addition, Devi (2013a) conducted a study in which 30 subjects participated in yoga training programme for a time period of 3 months, further the results propounded that yoga practitioner had significant changes in social dysfunction, anxiety, insomnia and severe depression. Studies have shown that substance dependent individuals have displayed poor performance in cognitive functioning in multiple aspects including working memory, mental flexibility and response inhibition. Besides, apathy, executive dysfunctioning and disinhibition were also observed among drug dependent individuals (Verdejo, Bechara, Recknor, & Perez, 2006). Importantly, long term abuse of drugs directly effects region of the frontal cortex of the brain that executes inhibitory response. This continuity of drug abuse leads to dysfunctioning of that part, which later develops an inability to response appropriately (Jentsch & Taylor, 1999). It is noted that the need of drug is psychic in nature and once if a person become dependent to such drugs their discontinuation becomes a difficult task for them. Also, a drug addicted person can relapse into their previous habit for drug dependence even after a prolonged duration of abstinence. The prime reason cited for this is their craving to re-experience its effects which they perceive (Rankin, Hodgson & Stockwell, 1979; Markou et al., 1993). In addition, being treated to addictive disorder, mental health clinical sitting have reported a significant higher comorbid disorder (Regier et al., 1990). The above discussion precisely answer that drug addiction have a severe impact on the cognitive functioning of the drug addicts. Thus, it becomes important to find out their level of cognitive dysfunctioning, which was not under the control of the investigator. The findings of these results might be due to some intervening variable which was behind the limit of the investigator.

4.6.5 Discussion pertaining to the impact of Yoga, Sports and Recreational activity on Personality

The results of Analysis of Covariance **Table 4.5.2** shows no significant difference among different experimental groups at the post-test stage of personality. Since p -value for the F-statistic at .557 was statically insignificant at 0.05 level of significance. Since $p > 0.05$, thus no post hoc comparison was carried out to find out degree of difference between the adjusted means of different treatment groups (yoga, sports, recreational activity, composite and control). Thus, the findings of the study revealed no significant difference of different treatment programmes on personality of

the drug addicts. Though the research in this area is scarce and this study meet the call for a better understanding in finding effect of yoga, sports and recreational activity on personality of the drug addicts. In regard of this, Allen, Greenlees, and Jones (2013) reported that there is a decline in the research of personality which is quite peculiar that how a field that dominated for so many years suddenly vanished as a area for research. Furthermore, Vanden, Nys, Rzewnicki, and Van (2001) suggested that researcher in recent years have shifted their focus specifically related to trait anxiety, hardiness and mental toughness. The investigator searched the literature extensively but reviews that were found were related to other sections of the society. Though these reviews shows contrary results with regard to findings of this study. In this regard, Hari (2016) stated that practice of yoga helps to resolve menacing problem of restlessness, unhappiness, emotional upsetness and many more other issue of our daily life routine that disturbs equilibrium of our bodies. Additionally, yoga evokes the hidden personalities of a person in a systematic and scientific manner which nourishes personality of an individual. Further, Tiwary (2016) examined that practice of yoga assists in attaining physical and mental fitness, which is considered as a basic prerequisite for overall development of a personality. In order to attain its full and effective expression one has to be continually vigilant to its practices. In addition, the practices of yoga in a rightful manner have found to be very effective for the integrated development of a personality. Yoga practice protects individual from unwanted negatives (National Council for Teacher Education [NCTE], 2015). The findings of this study specifically considering sports run parallel to those reported in Teshome, Mengistu, and Beker (2015) that observed personality traits such as extroversion, neuroticism and agreeableness shows no significant correlation with sports performance. There are some intervening variables that effect the results of the experimental study, especially which are conducted on the field, thus the findings of this study might be due to the interference of the confounding variables which cannot be controlled by the investigator. Finally, this study has bridged the gap in the extent literature by developing an intervention programme for the management of personality among drug addicts.

CHAPTER 5

SUMMARY AND CONCLUSIONS

The study was aimed at criminal propensity management among drug addicts through yoga, sports and recreational activity. To accomplish the aim of the study it is important to bifurcate it in parts. Thus, considering the aim of the present study different objective were set up. In the context various objectives of the study different hypotheses were framed. This chapter provides summary of all the previous chapters, in addition with the conclusion, suggestion and application of the present research work.

5.1 Objectives of the Study

- [1] To assess the impact of selected training programme in yoga, sports, recreational activity, composite and control group for managing criminal propensity among drug addicts.
- [2] To examine the impact of selected training programme in yoga, sports, recreational activity, composite and control group for managing aggression among drug addicts.
- [3] To analyze the impact of selected training programme in yoga, sports, recreational activity, composite and control group for managing loneliness among drug addicts.
- [4] To study the impact of selected training programme in yoga, sports, recreational activity, composite and control group for managing psychological well being among drug addicts.
- [5] To find out the impact of selected training programme in yoga, sports, recreational activity, composite and control group for managing personality among drug addicts.

5.2 Hypotheses of the Study

- [1] $H_{(1)}$: There exists a significant difference in the selected training programme in yoga, sports, recreational activity, composite and control group for managing criminal propensity among drug addicts.
- [2] $H_{(2)}$: There exists a significant difference in the selected training programme in yoga, sports, recreational activity, composite and control group for managing aggression among drug addicts.

- [3] **H₍₃₎** : There exists a significant difference in the selected training programme in yoga, sports, recreational activity, composite and control group for managing loneliness among drug addicts.
- [4] **H₍₄₎** : There exists a significant difference in the selected training programme in yoga, sports, recreational activity, composite and control group for managing psychological well being among drug addicts.
- [5] **H₍₅₎** : There exists a significant difference in the selected training programme in yoga, sports, recreational activity, composite and control group for managing personality among drug addicts.

5.3 Research Design

A pre-test and post-test randomised research experimental design was chosen to meet out the objectives of this study. The study was experimental in nature, a total of 50 samples were selected by means of purposive random sampling that were equally divided into five groups, four experimental groups and one controlled group (each group comprises of 10 samples). Experimental group 1: Yoga training group participated in yoga training programme. Experimental group 2: Sports training group participated in sports training programme. Experimental group 3: Recreational activity training group participated in recreational activity training programme. Experimental group 4: Composite training group participated in composite training programme. Group 5 was considered as control group and no training was imparted to this group. The experiment programme was implemented to the samples for a period of 10 weeks (i.e., 5 sessions per week each of one hour).

5.4 Sampling

For appropriate representation of the population, purposive random sampling technique was used, which is a probabilistic sampling technique. A list of various drug rehabilitation centers from Jalandhar were drawn, out of which only three centers were selected for the present study. The selected three drug rehabilitation was named as: Bolster Treatment and Rehabilitation Center, Rebirth Hospital and Rehabilitation Center and New Hope Rehabilitation and Treatment Center.

5.5 Data Collection

A pre-test data was collected on all the criterion variables, among different treatment groups before the start of training programme. After pre-test, training programme of

10 weeks was implemented to the four experiment group, whereas control group was not exposed to any type of training programme. After completion of the training programme, post-test data was collected from those subjects that have gone through a complete training programme.

5.6 Statistical Technique

Mean, standard deviation, Analysis of Covariance (ANCOVA) and post hoc test were employed in the statistical part of this present study.

5.7 Description of the Different Training Programme

A brief description of different training programme has been mentioned below:

5.7.1 Yoga Training Programme

Physical poses, breathing techniques, chanting and concentration were the selected activities in this training programme. This training schedule was implemented to experimental group 1: Yoga training group. The selected activities for this programme are enlisted as follows: Surya namaskar, tadasana, padmasana, titliasana, paschimottanasana, ushtrasana, chakarasana, sarvangasana, anulom and vilom, ujjayi, kapalbhati pranayama, om chanting, dot tratak and savasana (**Table: 3.4**).

5.7.2 Sports Training Programme

Football, volleyball, tennis ball cricket, handball and badminton were the selected activities in this training programme. This training schedule was implemented to experimental group 2: Sports training group (**Table: 3.5**).

5.7.3 Recreational Activity Training Programme

Cat and mice, changing seats, singing, drop the handkerchief, elimination ball, dance, keep the ball, duck walk race, tug of war, leep frog, hill dill, busy bee, sound and action and leg cricket were the selected activities of this programme. This training schedule was implemented to experimental group 3: Recreational activity training group (**Table: 3.6**).

5.7.4 Composite Training Programme

This training programme comprises of a mixture of selected yoga asana, recreational activity and sports. This training schedule was implemented to experimental Group 4: Composite training group (**Table 3.7**).

5.7.5 Control group

Group 5 was kept as a control group in this study, which was not exposed to any sort of training programme.

5.8 Results and Findings

- [1] **Table: 4.1.2** presents p -value at .000 which was statically significant at 0.05 level of significance. Thus post hoc test was conducted to find out which treatment group was the most effective one. The observed adjusted mean values of different treatment groups was as given: sports 63.49, composite 73.31, recreational activity 76.16, yoga 91.29 and control group 125.87. The findings showed that criminal propensity was least in the experiment group 2: sports group, whereas it was highest in the control group. Thus, sports group was considered as the most effective treatment group and control group was the least effective treatment group.
- [2] **Table 4.2.2** shows p -value at .000 which was statically significant at 0.05 level. Thus, post hoc test was conducted to find out which treatment group was the most effective one. It was noted that there was no significant difference in the adjusted mean scores of the various groups viz., composite and yoga; composite and sports; yoga and sports; recreational activity and control group. Hence, it was inferred that treatment groups viz; composite, yoga and sports were equally effective, whereas treatment group recreational activity and control group were also equally effective in reducing the criminal propensity among drug addicts. The adjusted mean value of composite group was found to be least, thus composite group was the most effective treatment group, whereas, control group was the least effective treatment group in reducing aggression among the subjects.
- [3] The results of Analysis of Covariance **Table: 4.3.2** shows significant difference among the experimental groups at the post-test stage. Since p -value at .048 was significant at 0.05 level of significance, thus post hoc analysis was conducted to find out the direction of difference. All the treatment groups exhibit significant difference with the control group as the $p < .05$. The findings showed that the adjusted post-test mean value of loneliness was least in the sports group as compared to other treatment groups. Thus, on the basis of these findings sports group was the most effective treatment group,

whereas control group was the least effective treatment group in reducing loneliness among subjects.

- [4] The results of Analysis of Covariance **Table: 4.4.2** shows no significant difference in psychological well being among different treatment groups at the post-test stage. Since p -value at .657 was statically insignificant at 0.05 level, thus no post hoc comparison was carried out to find out degree of difference between the adjusted means of different treatment groups viz; yoga, sports, recreational activity, composite and control. This findings of the study revealed that there was no significant difference of different training programme on personality of the drug addicts.
- [5] The results of Analysis of Covariance **Table: 4.5.2** shows no significant difference among different treatment groups at the post-test stage. Since p -value at .557 was statically insignificant at 0.05 level, thus no post hoc comparison was carried out to find out degree of difference between the adjusted means of different treatment groups viz; yoga, sports, recreational activity, composite and control. Thus, the findings of the study revealed that there was no significant difference of different training programme on personality of the drug addicts.

5.9 Conclusions

Based on the understanding after deliberate discussion with experts and the supervisor and also in light of the above understanding following conclusions were finally drawn:-

- [1] The selected training programme of yoga, sports, recreational activity, composite and control group have shown significant difference during post-test stage in managing criminal propensity of the drug addicts. Further, it was shown that treatment groups viz; sports, composite, recreational activity were equally effective, while as treatment group yoga and recreational activity were also equally effective in reducing criminal propensity among the drug addicts in comparison to that of the control group. The adjusted mean value of sports group was found to be least, thus sports group was the most effective treatment group and control group was the least effective treatment group in reducing criminal propensity among the subjects.

- [2] The selected training programme of yoga, sports, recreational activity, composite and control group have shown significant difference during the post-test stage in managing aggression of the drug addicts. Further, it was shown that treatment groups viz; composite, yoga and sports were equally effective, while as treatment group recreational activity and control group were also equally effective in reducing aggression level of the drug addicts. The adjusted mean score of the yoga and sports group were found better in comparison to the recreational activity and control group. Further, adjusted mean value of composite group was found to be least, thus composite group was found to be the most effective treatment group and control group was the least effective treatment group in reducing aggression among the drug addicts.
- [3] The selected training programme of yoga, sports, recreational activity, composite and control group have shown significant difference during the post-test stage in managing loneliness of the drug addicts. The treatment groups viz; sports, composite, yoga and recreational activity were equally effective in reducing the loneliness among the drug addicts in comparison to that of the control group. However, a significant difference was founded in the adjusted mean scores among different treatment groups viz., sports, composite, yoga and recreational activity in comparison of the control group. Further, adjusted mean score of the sports group 98.26 was slightly better compared to other treatment groups. Thus, based upon the findings it was concluded that sports group was the most effective treatment group and control group was the least effective treatment group in reducing loneliness among the subjects.
- [4] The selected training programme of yoga, sports, recreational activity, composite and control group have shown no significant difference during the post-test stage in managing psychological well being of the drug addicts. Therefore, no post hoc comparison was carried out to find out degree of difference between the adjusted means of different treatment groups.
- [5] The selected training programme of yoga, sports, recreational activity, composite and control group have shown no significant difference during the post-test stage in managing personality of the drug addicts. Therefore, no post

hoc comparison was carried out to find out degree of difference between the adjusted means of different treatment groups.

5.10 Suggestions

- [1] Similar kind of study can be conducted on female section of drug addicts.
- [2] Depending upon the feasibility of the samples, a longitudinal study can be conducted similarly.
- [3] Similar sort of treatment programme can be implemented for the management of depression, impulsivity and low self esteem.
- [4] This programme can be implemented for the management of specific drug addiction like cocaine, heroin, opiates, opium, and marijuana.
- [5] In this study the investigator have developed treatment programme that includes team sports, similarly individual sports can be included as a treatment programme for the management of different areas that act as a curse and ruined the life of drug addicts.
- [6] Competition phases can be included as a part of treatment programme.
- [7] Different training programmes can be developed by selecting yoga practices, team sports and recreational activity other than chosen in this study.

5.11 Application/Recommendation of the Research

- [1] The findings of this research can be considered by the government while framing various policies for the management of criminal, aggressive and loneliness behaviour among drug addicts. In this concern, life skills training programme can be provided to build resilience at risk and to reduce anti-social behaviour among youth. Policies and awareness programmes need to be implemented to highlight the importance of sports in order to reach out youth, including socially excluded groups in society.
- [2] The different treatment programme comprising of selected yoga, sports and recreational activities can be applied in drug rehabilitation centers located in other parts of India and foreign nations where criminal propensity among drug addicts is developing at a alarming pace.

- [3] This study can be very useful in preventing the youth at risk to criminal propensity, high aggressive behaviour and drug abuse in various school, colleges, universities and other educational institutions. The 'yoga asanas' helps in building inner strength, flexibility and confidence among them. It further assists in keeping the body and mind calm and refreshed. Yoga and the selected sports activities in the study were found to be the significant factors that may help to enhance their wellness through the development of social, emotional, cognitive and academic life skills, such as focus, decision-making, cooperation, stress management and empathy. Stress is a major obstacle to the academic achievement among students. However, yoga helps in providing stress relief powers to them that ultimately boost their academic performance while improving their memory.
- [4] The study is of immense importance for framing drug addiction rehabilitation programme among different sections of the society.
- [5] Psychiatrists, researcher and professionals can use this study for screening and identifying anti-social behavior among adolescents and adults.
- [6] The study has highlighted the significance of 'sports and yoga practices' to curb the criminal propensity. Therefore, it can be applied in prisons around the world for the management of stress, general health and the alleviation of different physical problems and to correct and reform the criminal personality among them. The reason being, crime committed by them is due to the distortions of mind, inner stress, mental disharmony, unresolved tensions and drug abuse.

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Arjun Singh (Phagwara)
Dr. Neelam Sharma (Phagwara)

Consumable Booklet
of
CPS-SASN
(English Version)

Please fill in the following entries :

Date

Name _____ Father's Name _____

Date of Birth Gender : Male Female

Qualification _____

Marital Status: Unmarried Married Widower/Widow Divorcee

Type of Family : Joint Single Area : Urban Rural

Employment Status : Employed Unemployed Self-employed

INSTRUCTIONS

On the following pages 50 statements have been given. Read each statement carefully and decide your answer on your personal thinking on the given Five-point alternate answers, viz., **Always**, **Often**, **Sometimes**, **Rarely** and **Never** put a mark in the appropriate cell which describes you the best.

Kindly do reply to all the 50 statements.

Be rest assured that your answers will be kept strictly confidential.

Scoring Table

Page	Raw Score			z-Score	Grade	Level of Criminal Propensity
	2	3	4			
Score						
Total						

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UG-1, Nirmal Heights, Near Mental Hospital, Agra-282 007

Sr. No.	STATEMENTS	Always	Often	Some-times	Rarely	Never	SCORE
1.	Do you hurt people by throwing objects ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
2.	Do you fight with people unnecessary ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
3.	Do you use weapon when you fight with someone ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
4.	Do you beat someone with the idea of hurting them ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
5.	Do you slap your younger one without any genuine reason ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
6.	Do you hurt player of opposition deliberately while playing sports ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
7.	If someone make you angry, does this provoke you to fight with them physically ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
8.	Do you hurt people when they don't favour you ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
9.	Do you threaten to beat someone with a weapon ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
10.	Do you verbally abuse people ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
11.	Do you damage the public property ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
12.	Do you destroy things if you get angry ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
13.	Do you like to follow instructions ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>
14.	Do you break rules and regulations ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
15.	Do you obey to your guardians ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>
16.	Do you repeat the same offence despite being punished ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
17.	One who do not pay attention to his/her mentor is intelligent ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
18.	Do you disobey elders ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Total Score Page 2							<input type="text"/>

Sr. No.	STATEMENTS	Always	Often	Some-times	Rarely	Never	SCORE
19.	Do you think that obeying rules and regulations is a foolness ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
20.	Being Disobedient is a bad character of a person ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
21.	Paying attention is an act of discipline ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
22.	Being obedient is the good way of living ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
23.	Do you maintain discipline in your daily routine ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
24.	Do you take permission when mandatory ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
25.	Do you steal something that does not belong to you ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
26.	Do you abuse people for just the sake of fun ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
27.	Do you force another person for attaining money ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
28.	Do you make comment on passing girl ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
29.	It is bad to have sex with a female without her consent ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
30.	Do you participate in group clashes ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
31.	Do you snatch things from other ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
32.	Would you like to carry a weapon when you move out of the house ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
33.	Do you wish to take part in gambling ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
34.	Do you want to skip away from fostering home ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
35.	It is funny to insult a stranger ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>

Total Score Page 3

Sr. No.	STATEMENTS	Always	Often	Some-times	Rarely	Never	SCORE
36.	Do you motivate other persons for committing an offence ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
37.	Do you assist others for breaking law and order ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
38.	Do you wish to be a part of gang ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
39.	There is no wrong in buying stolen goods ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
40.	Do you write bad checks on the walls or doors ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
41.	It is good to smoke at public places ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
42.	Do you wish to use drug other than those required for medical reason ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
43.	Would you force other people for taking drug ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
44.	Would you like to act as an intermediate while making out the deal of drugs ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
45.	Would you sell drugs if get payment for it ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
46.	Do you feel guilty about the use of drug in past by you ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
47.	To create nuisance after drinking is acceptable ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
48.	Do you feel craving for the use of drug ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
49.	Would you engage in illegal activities for obtaining drugs ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
50.	Will you approach other people for attaining drug ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Total Score Page 4							<input type="text"/>

Dr. Rajeev Lochan Bhardwaj

Ag Scale

Reader, Department of Psychology
D.S. College, Aligarh

Please give information about yourself :

Gender	Age	Caste	Religion	Education
Rural/Urban	Occupation	Monthly Income	Married/Unmarried	

Instruction :

1. Please read carefully as every statement is related to your expressed behaviour.
2. Please answer each and everything with utmost honesty.
3. There are five alternatives before each and every statement. Please tick (✓) which ever alternative resembles your behaviour.
4. All information given by you shall remain confidential.

-
- | | |
|--|--|
| 1. Whether your friends or relative...
in meeting you. | () avoid in excess
() avoid much
() avoid generally
() generally do not avoid
() never avoid |
| 2. I take in debating with others even
without need. | () excessive pleasure
() much pleasure
() pleasure normally
() no pleasure
() not the least pleasure |
| 3. To hear and read the story of revolutionary
heroes, I..... | () like very much.
() like much.
() like normally.
() like less
() like the least. |
| 4. To obey the rules of the society, I..... | () do not consider necessary always.
() do not consider necessary.
() consider necessary off and on.
() consider necessary.
() consider necessary always. |
| 5. To drive fast or to sit in the fast driven car
without much need of the occasion, I..... | () like very much.
() like much.
() like normally.
() like less.
() like the least. |

(2)

6. To retort the other's provoking answer, I.....
- like very much.
 - like much.
 - like normally.
 - like less.
 - like the least.
7. To return a blow in lieu of slap, I.....
- consider very much appropriate.
 - consider much appropriate.
 - consider appropriate normally.
 - consider less appropriate.
 - consider least appropriate.
8. In the event of a work against my wishes, I.....
- lose my temper in excess.
 - lose my temper very often.
 - lose my temper occasionally.
 - do not lose my temper normally.
 - never lose my temper.
9. Actions of violence in the programmes of TV, I....
- like very much.
 - like much.
 - like normally.
 - like less.
 - do not like at all.
10. During the sleep the dreams of strife and violence, I.....
- have in excess.
 - have very often.
 - have occasionally.
 - do not have generally.
 - do not have at all.
11. How to improve the present social system around us ? This point
- is the most important for me.
 - is important for me.
 - is important normally for me.
 - is less important for me.
 - is not at all important for me.
12. In order to achieve my goal (right or wrong), I.....
- remain always eager.
 - remain eager.
 - occasionally remain eager.
 - hardly remain eager.
 - never remain eager.
13. To have a meeting with the battle warriors and horrible fighters, I.....
- like very much.
 - like much.
 - like normally.
 - like less.
 - do not like at all.

14. For the selfish interests of others, I.....
- become a tool always.
 - become a tool generally.
 - become a tool occasionally.
 - do not become a tool normally.
 - never become a tool.
15. Finding that my things are not properly placed, I....
- become angry in excess.
 - become much angry.
 - become angry occasionally.
 - do not become angry normally.
 - do not become angry at all.
16. To break or to throw away the inanimate objects, I.....
- like very much.
 - like much.
 - like generally.
 - do not like generally.
 - do not like at all.
17. To hunt the animals and birds without much cause, I.....
- like very much.
 - like much.
 - like normally.
 - like less.
 - do not like at all.
18. In teasing and torturing others, I.....
- find delight in excess.
 - find delight.
 - find delight normally.
 - do not find much delight.
 - find no delight at all.
19. While being confronted with partiality, I.....
- become very much angry.
 - become angry.
 - become angry normally.
 - do not become angry generally.
 - do not become angry at all.
20. How the opponent should be tortured ? This thought, is.....
- always present in my mind.
 - generally present in my mind.
 - occasionally present in my mind.
 - not present in my mind normally.
 - never present in my mind.
21. To obey the elders, I.....
- do not like at all.
 - generally do not like.
 - occasionally do not like.
 - like normally.
 - like always.

22. To hear others in loud tone, I.....
- do not like at all.
 - do not like normally.
 - tolerate some times.
 - tolerate very often.
 - tolerate always.
23. To tell the faults of elders while they are at faults, I.....
- consider very much necessary.
 - consider necessary.
 - consider necessary normally.
 - consider less necessary.
 - do not consider necessary at all.
24. While failing to take revenge with the opponent, I.....
- shout and murmur for a long time.
 - shout and murmur for quite some time.
 - shout and murmur normally.
 - shout and murmur a little.
 - hardly shout and murmur.
25. In the interest of the nation, even the deeds going against public interest, I.....
- accept very easily.
 - accept easily.
 - accept normally.
 - hardly accept.
 - do not accept at all.
26. If a small event of tussel appears on the road, I.....
- begin to irritate in excess.
 - begin to irritate.
 - begin to irritate normally.
 - hardly irritate.
 - never irritate.
27. If I get angry on others, I..... for my own loss.
- never care
 - do not care normally
 - do not care occasionally
 - care less
 - least care
28. In the unnecessary disputes of the society, I.....
- participate very often.
 - participate often.
 - participate occasionally.
 - hardly participate.
 - do not participate at all.

Thank you !



T. M. No. 458715

Dr. Praveen Kumar Jha (Madhipura)

Consumable Booklet

of
PLS
(English Version)

Please fill up the following :-

Name _____ Age : Years _____ Months _____ Days _____

Education/Class _____ Married/Unmarried _____ Male / Female _____

Nature of Family : Joint/Nuclear _____ No. of Members in the Family _____

Occupation of Guardian _____ Average Income of the Family _____

Residence : City/Town/Village _____ Length of living in City/Town/Village _____ Religion and Caste _____

INSTRUCTIONS

On the following pages some of the statements in question form about your social and practical problems have been given. These statements refer to the very facts and ideas which you observe and practice in your day-to-day life. These statements have nothing to do with your I.Q. test or personality test or knowing your merits and demerits. The aim is to get aware of the problems of normal persons.

Please read carefully each and every statement given in the questionnaire only to find out whether you agree or disagree with them. For the sake of your convenience a series of five answers for each statement have been given as Totally Agree (5), Agree (4), Can't Say (3), Disagree (2) and Totally Disagree (1). Please tick the cell given below the answer which according to you is the most appropriate one.

For example :

Do you get excited and restless on being unsuccessful ?

If you totally agree with this statement, please tick (v) the cell given below Totally Agree.

Estd. 1971

364926

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4/230, KACHERI GHAT, AGRA - 282 004

Statements	Categories of Answer				
	Totally	Can't			Totally
	Agree	Agree	Say	Disagree	Disagree
	5	4	3	2	1
1. Do you pass by a familiar person pretending that you are unacquainted with him ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Do you feel that nobody understands you ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Are you afraid of starting any piece of work in right earnest lest you would fail ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
*4. Are you able to read with concentration where there is noise?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Do you regret Alas ! you couldn't achieve anything substantial ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Is it a fact that you feel helpless ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Do you think that creative work can be performed only in isolation ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Do you lose your patience easily ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Are you afraid of sleeping alone in the room ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Do you feel that you lack enthusiasm ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Do you think that your surrounding is meaningless ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
*12. Does your progress remain satisfactory inspite of difficulties ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Don't you like to remain aloof from your domestic surroundings ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Statements	Categories of Answer				
	Totally	Can't		Totally	
	Agree	Agree	Say	Disagree	Disagree
	5	4	3	2	1
*14. Do you think that you have a moral responsibility towards the society ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Do you feel alienated ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Do you often wish to weep in isolation ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Do you generally suffer from conflicts or indecisions ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
*18. Do you enjoy your criticisms ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. Do you feel shy before others ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. Do you keep on worrying about what lies in your fate ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
*21. Are you prompt in performing your preplanned job ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. Do you always find yourself in the midst of problems ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. Do you wake-up at night frequently ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. Is your sentiment or feeling hurt easily ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. Is it that you do not want to talk before others lest you should be scoffed at ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
*26. Do you share miseries of your friends ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Statements	Categories of Answer				
	Totally	Can't		Totally	
	Agree	Agree	Say	Disagree	Disagree
	5	4	3	2	1
27. Do you often anticipate imminent calamity on you ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28. Do you feel frustrated with the work performed by you ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
*29. Do you imagine or plan a thing wholly before you start writing over it ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30. Does a lot of nonsense occur to your mind which disturbs you ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31. Are you reluctant to visit your friends ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32. Do you keep yourself away from fairs or crowd ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33. Is your routine full of such works in which you remain involved ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34. Do you feel difficulty in taking interest in any job or business ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
*35. Do you enjoy to face any challenge ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36. Did days, weeks and months pass away during which you could not look after any job since you were unable to do anything during that period ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



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Dr. Devendra Singh Sisodia (Udaipur)
Ms. Pooja Choudhary (Udaipur)

Consumable Booklet

of

PWBS-SDCP

(English Version)

Fill in the following Informations—

Date

--	--	--	--	--	--	--	--

Name _____

Date of Birth

--	--	--	--	--	--	--	--

 Class _____

Marital Status _____ Education _____

Religion _____ Profession _____

Sex : Male Female

INSTRUCTIONS

Read each statement carefully and tick any one option you find most appropriate. No answer is right or wrong. Don't spend too much of time on any statement. Answer all the statements. The information would be kept confidential and will be used for the research purpose only.

SCORING TABLE

Area	Raw Score					Total Score
	I	II	III	IV	V	
Score						
Interpretation						

Estd. 1971

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NATIONAL PSYCHOLOGICAL CORPORATION
4/230, KACHERI GHAT, AGRA-282 004 (INDIA)

Sr. No.	STATEMENTS	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	SCORE
---------	------------	----------------	-------	-----------	----------	-------------------	-------

Area I

- | | | | | | | |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|-----------------------|
| 1. I think I have a particular meaning and purpose of my life. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="radio"/> |
| 2. I have happy memories of the past. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="radio"/> |
| 3. I am very much satisfied about everything in my life. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="radio"/> |
| 4. In general, I feel I am incharge of the situation in which I live. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="radio"/> |
| 5. In most ways my life is close to my ideal. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="radio"/> |
| 6. The conditions of my life are excellent. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="radio"/> |
| 7. So far, I have the important things I want in life. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="radio"/> |
| 8. If I could live my life over, I would change almost nothing. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="radio"/> |
| 9. In many ways, I feel contended about my achievements in life. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="radio"/> |
| 10. I am living the kind of life I wanted to. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="radio"/> |

Total Score Area I

Area II

- | | | | | | | |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|-----------------------|
| 11. I find easy to make decisions. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="radio"/> |
| 12. In my daily life I get chance to show how capable I am. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="radio"/> |
| 13. I feel positive and creative. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="radio"/> |
| 14. I find I can think quite clearly. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="radio"/> |
| 15. I am quite good at managing responsibilities of my daily life. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="radio"/> |
| 16. For me, life has been a continuous process of learning, changing and growth. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="radio"/> |
| 17. I feel that I am capable of working hard. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="radio"/> |
| 18. I feel eager to tackle my daily task or make new decisions. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="radio"/> |

Sr. No.	STATEMENTS	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	SCORE
33.	Tension in life doesn't affect my health.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
34.	I have no difficulty in sleeping.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
35.	I keep myself busy whole day.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
36.	Illness doesn't affect my mental health.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
37.	I feel rested when I wake up in the morning.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
38.	Talking or thinking about my illness doesn't make any difference to me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
39.	Usually I don't feel tired, worn out, used up or exhausted.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
40.	Age related problems are part of life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Total Score Area IV							<input type="text"/>

Area V

41.	Personal relationship gives me pleasure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
42.	I enjoy company of other people.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
43.	I enjoy my personal achievements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
44.	I perform useful activities like reading, gardening, etc. in my leisure time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
45.	I have no hesitation in talking to anyone.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
46.	I like to do any task at right place and right time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
47.	I have good relations with relative and friends.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
48.	I feel satisfied by doing religious activities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
49.	I like to watch programs on TV with everyone.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
50.	I am always careful about my manner of dress.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Total Score Area V							<input type="text"/>



Consumable Booklet

of
EPQ-DBTR

(For Adults)

(Hindi Version)

Dr. B. Dey, Ph.D. (London)

Dr. R. Thakur, Ph. D. (Patna)

कृपया निम्न सूचनाएँ भरिये—

दिनांक

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नाम

पिता का नाम

व्यवसाय

पद

जन्म-तिथि

शिक्षा

लिंग: पु.

स्त्री

आयु

विवाहित

अविवाहित

तलाकशुदा

विधुर/विधवा

निवास स्थान

निर्देश

आगे के पृष्ठों पर 72 कथन दिये गये हैं। कृपया प्रत्येक कथन को ध्यानपूर्वक पढ़ें तथा उसके सामने उत्तर के लिये दिये गये दो विकल्प 'हाँ', 'नहीं' में से जो आपके अनुसार सही हो उस खाने में का चिह्न लगा दें। सभी कथन आपके दैनिक जीवन से सम्बन्धित हैं तथा कोई भी उत्तर सही या गलत नहीं है।

कृपया सभी कथनों के उत्तर अवश्य दें। आपके उत्तरों को पूर्णतः गोपनीय रखा जायेगा।

वैसे तो इस प्रश्नावली को करने की कोई समय सीमा नहीं है, फिर भी आप आसानी से इसे 30-40 मिनट में कर लेंगे। अतः शीघ्रता करें। किसी भी कथन पर सोचने में अधिक समय नहीं ले।

फलांकन तालिका

SCALE	P	E	N	L
Raw Score				
P Range				
Level /Category				

MANASVI

Distributor

NATIONAL PSYCHOLOGICAL CORPORATION

UG-1, Nirmal Heights, Near Mental Hospital, AGRA-282 007 ☎: (0562) 2601080

क्र. सं.	कथन	विकल्प		
		हाँ	नहीं	प्राप्तंक
13.	क्या आप एक बातूनी या गप्पी व्यक्ति हैं ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>
14.	ऐसे लोग जो आपके लिए प्रिय हैं उन्हें दुःखी बनाने में क्या आपको आनन्द मिलता है ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>
15.	क्या आप अपने को शीघ्र घबड़ा जाने वाला व्यक्ति समझते हैं ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>
16.	क्या आपने खेल में कभी किसी को छकाया है ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>
17.	क्या आपको नये लोगों से मिलकर खुशी होती है ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>
18.	क्या आप किसी से मिलने-जुलने के निर्धारित समय से बहुत ही पहले पहुँचना पसंद करते हैं ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>
19.	क्या आपकी भावनाओं को आसानी से ठेस लग जाती है ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>
20.	यदि आपको पक्का विश्वास हो जाय कि आप कभी भी पकड़े नहीं जायेंगे तो क्या आप टैक्स विभाग को टैक्स भुगतान करने में चकमा देंगे ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>
21.	क्या आप लोगों से मिलने-जुलने की अपेक्षा अध्ययन करना पसंद करते हैं ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>
22.	क्या आप ऐसा सोचते हैं कि विवाह प्रथा पुरानी हो गयी है, इसे समाप्त कर देना चाहिए ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>
23.	क्या आप अपने को तनावपूर्ण स्थिति में रहने वाला व्यक्ति समझते हैं ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>
24.	क्या आपकी सारी आदतें/अच्छी और सराहनीय हैं ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>

Sr. No.	P			E			N			L		
Item No.	14	18	22	13	17	21	15	19	23	16	20	24
Raw Score												
Total Score												



Dr. B. Dey, Ph.D. (London)
Dr. R. Thakur, Ph. D. (Patna)

Consumable Booklet
of
EPQ-DBTR
(For Adults)
(Hindi Version)

कृपया निम्न सूचनाएँ भरिये—

दिनांक

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नाम _____ पिता का नाम _____

व्यवसाय _____ पद _____

जन्म-तिथि _____ शिक्षा _____

लिंग: पु. स्त्री आयु _____

विवाहित अविवाहित तलाकशुदा विधुर/विधवा

निवास स्थान _____

निर्देश

आगे के पृष्ठों पर 72 कथन दिये गये हैं। कृपया प्रत्येक कथन को ध्यानपूर्वक पढ़ें तथा उसके सामने उत्तर के लिये दिये गये दो विकल्प 'हाँ', 'नहीं' में से जो आपके अनुसार सही हो उस खाने में का चिन्ह लगा दें। सभी कथन आपके दैनिक जीवन से सम्बन्धित हैं तथा कोई भी उत्तर सही या गलत नहीं है।

कृपया सभी कथनों के उत्तर अवश्य दें। आपके उत्तरों को पूर्णतः गोपनीय रखा जायेगा।

वैसे तो इस प्रश्नावली को करने की कोई समय सीमा नहीं है, फिर भी आप आसानी से इसे 30-40 मिनट में कर लेंगे। अतः शीघ्रता करें। किसी भी कथन पर सोचने में अधिक समय नहीं ले।

फलांकन तालिका

SCALE	P	E	N	L
Raw Score				
P Range				
Level /Category				

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NATIONAL PSYCHOLOGICAL CORPORATION

UG-1, Nirmal Heights, Near Mental Hospital, AGRA-282 007 ☎: (0562) 2601080

क्र. सं.	कथन	विकल्प		
		हाँ	नहीं	प्राप्तांक
13.	क्या आप एक बातूनी या गप्पी व्यक्ति हैं ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>
14.	ऐसे लोग जो आपके लिए प्रिय हैं उन्हें दुःखी बनाने में क्या आपको आनन्द मिलता है ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>
15.	क्या आप अपने को शीघ्र घबड़ा जाने वाला व्यक्ति समझते हैं ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>
16.	क्या आपने खेल में कभी किसी को छकाया है ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>
17.	क्या आपको नये लोगों से मिलकर खुशी होती है ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>
18.	क्या आप किसी से मिलने-जुलने के निर्धारित समय से बहुत ही पहले पहुँचना पसंद करते हैं ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>
19.	क्या आपकी भावनाओं को आसानी से ठेस लग जाती है ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>
20.	यदि आपको पक्का विश्वास हो जाय कि आप कभी भी पकड़े नहीं जायेंगे तो क्या आप टैक्स विभाग को टैक्स भुगतान करने में चकमा देंगे ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>
21.	क्या आप लोगों से मिलने-जुलने की अपेक्षा अध्ययन करना पसंद करते हैं ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>
22.	क्या आप ऐसा सोचते हैं कि विवाह प्रथा पुरानी हो गयी है, इसे समाप्त कर देना चाहिए ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>
23.	क्या आप अपने को तनावपूर्ण स्थिति में रहने वाला व्यक्ति समझते हैं ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>
24.	क्या आपकी सारी आदतें/अच्छी और सराहनीय हैं ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>

Sr. No.	P			E			N			L		
Item No.	14	18	22	13	17	21	15	19	23	16	20	24
Raw Score												
Total Score												

