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A DESCRIPTIVE ANALYSIS OF THE IMPACT OF CHILDHOOD TRAUMA IN A GROUP OF PEOPLE UNDERGOING REHABILITATION FOR SUBSTANCE USE

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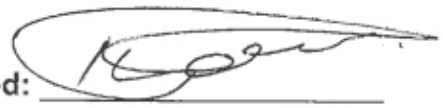
MBChB (UFS)

A research report submitted to the Faculty of Health Sciences, University of the Witwatersrand, Johannesburg, in partial fulfilment of the requirements for the degree of Master of Medicine (Psychiatry)

Johannesburg, 2020

DECLARATION

I, Kabo Letseli declare that this research report is my own unaided work. It is being submitted for the degree of Master of Medicine in the branch of Psychiatry at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree examination at this or any other University.

Signed: 

Date: 14 October 2020

DEDICATION

Firstly, I would like to dedicate this research work to all the families in South Africa who have to live with the challenge of having mentally ill family member(s).

Secondly, I dedicate this research work to my family who supported me throughout the project.

PUBLICATIONS AND PRESENTATIONS ARISING FROM THIS STUDY

Oral Presentation – University of the Witwatersrand, Department of Psychiatry Annual Research Day 2019.

ABSTRACT

Introduction: Childhood traumatic experiences which did not receive appropriate pharmacological and/or other intervention, may lead to psychological disturbances and psychiatric disorders such as substance use disorders. The aim of this study was to describe the socio-demographic profile of substance abusers and to compare patterns of substance abuse among individuals with early childhood trauma experience and those without.

Methods: This was a cross-sectional study that took place among people undergoing rehabilitation for substance abuse at the Ithemba Alcohol and Drug Rehabilitation Clinic and at SANCA Vaal Triangle. A total of hundred and twenty (120) participants were interviewed. Besides their socio-demographic information, data on whether they had confided in anyone was collected. The Childhood Traumatic Event Scale (CTES) was administered to elicit past traumatic experiences and to determine the level of their severity.

Results: Of the hundred and twenty (120) participants, the majority were male (118) (98.2%) and only two (2) (1.68%) were female. The mean age of the participants was 27.9 years (SD = 6.9) and 88.24% had high school education. The majority (94%) were single and unemployed (87.39%). Cannabis, opioids, alcohol and stimulants, were the most used substances. Analysis of total trauma scores (high vs low) by demographics, type of substance used and forensic history did not yield any statistical significance. Social support and the absence of parental use of alcohol and other substance use was significantly associated with low trauma scores p-value (0.0267 and 0.0049) respectively.

Conclusion: There is a high prevalence of childhood trauma in people seeking help for substance abuse. Further research, using larger sample sizes and of a longitudinal nature needs to be conducted regarding the association between various substances being abused and childhood traumatic events, as well as the impact of confiding in others as coping mechanisms. Early psychosocial interventions should be offered to mitigate the impact of past traumatic experiences.

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LIST OF ABBREVIATIONS

CTES	**:**	Childhood Traumatic Event Scale
ECTE	**:**	Early Childhood Trauma Exposure
HPA-axis	**:**	Hypothalamic-Pituitary-Adrenal Axis
OTC	**:**	Over the Counter Medication
SACENDU	**:**	South African Community Epidemiology Network on Drug Use
SANCA	**:**	South African National Council on Alcoholism
WHO	**:**	World Health Organisation
UN	**:**	United Nations

CHAPTER 1: INTRODUCTION

1.1 Definition of Child Abuse

The World Health Organisation (WHO) defines child abuse as any form of abuse inflicted against a child younger than 18 years of age, by those who have a responsibility to care and protect them. The abuse may be sexual, physical, emotional, neglect and commercial exploitation. Exposure to violence perpetrated against loved ones including parents, siblings and caregivers, is also considered as a form of child abuse. All these forms of abuse have the potential to harm the child's health and development, thus impairing the normal transition to adulthood (WHO, 2016:2).

The South African Children's Act 38 of 2005, Chapter 1, defines child abuse as any form of abuse deliberately inflicted against a minor (< 18 years of age). It includes physically assaulting a child or causing any form of deliberate harm to a child, exposing a child to sexual abuse directly or indirectly. Abuse by other children in the form of teasing or bullying, commercial exploitation or exposing a child to acts or behaviour that may cause psychological or emotional harm (Children's Act, 2005).

1.2 Prevalence of Childhood Trauma and Substance Abuse

1.2.1 Global Prevalence of Childhood Trauma

The recent estimates differ from country to country, depending on the number of factors applied when conducting research. These factors include among other things, the definition of child abuse used in that particular country, the research methods applied, the accuracy of reporting statistics to officials, and the quality of surveys that conduct self-reporting from victims.

International studies reveal that as many as one third of adults report having been victims of abuse. One in five women and one in thirteen men admitted to being sexually abused as children. Every year, there are an estimated forty-one thousand (41 000) homicides of children under the age of fifteen (15). This number is thought to be an underestimation of the true extent of the problem as a significant proportion of deaths due to child abuse are falsely reported as caused by other reasons such as falls, burns, drownings and other causes (WHO, 2016:3).

1.2.2 The Prevalence of Childhood Trauma in South Africa

Burton et al, (2016), in the first ever nationally representative data in South Africa on child abuse, revealed that 19.8% of young people (15-17year old) admitted to having been exposed to some form of sexual trauma in their lifetimes. More than a third reported having been physically assaulted by a person who was supposed to be looking after them. Other forms of abuse which were reported from the study included emotional abuse, neglect and having witnessed or learned of verbal and or physical violence inflicted by caregiver towards a sibling or another adult in their home environment.

In the study looking at the epidemiology of child homicides in South Africa, Mathews et al, (2013) reported that South Africa records high levels of violence inflicted against children. The homicide rate is more than twice the global rate, and almost half of all homicides reported to law authorities were related to child maltreatment.

1.2.3 Substance Use Disorder

Substance use disorder is defined as a problematic pattern of substance use leading to clinically significant impairment or distress in important areas of functioning such as occupational, academic and social activities. It is manifested by the presence of at least two of the eleven clinical symptoms of substance abuse, occurring within a twelve-month period. It is further characterized by the presence of a group of cognitive,

behavioural, and physiological symptoms indicating continued use of substance despite evidence of significant substance-related problems. (American Psychiatric Association, 2013).

1.2.3.1 Global statistics for substance use disorders

European regions reported the highest global prevalence of severe alcohol use and daily nicotine use, while North American regions recorded the highest prevalence of cannabis, opioids, and stimulant (cocaine) use disorder. An online review revealed an estimated prevalence of alcohol use among the adult population to be 18.4% in the past 30 days, followed by daily tobacco smoking at 15.2%. For past year cannabis, opioids, and cocaine use, prevalence rate of 3.8, 0.77, 0.37 and 0.35% was reported respectively (Peacock et al, 2018).

1.2.3.2 South African statistics for substance use disorders

In recent years, substance use statistics in South Africa showed that illicit substance abuse is a serious concern in the country and it continues to rise. Research shows that about 7.06% of the South African population uses narcotics of some sort. Methaqualone (Mandrax), cocaine, cannabis, and heroin are all illicit substances that are increasingly being used (United Nations World Drug Report, 2014).

Peltzer & Phaswana-Mafuya, (2018), conducted a population-based survey in South Africa, investigating a previous three-month drug use among youth and adults. The survey noted an increase in drug use from 3.7% in 2008 to 4.4% in 2012. Data from this study showed an upward trend which is worrying, however there is a lack of research in this field to follow up on and confirm this trend. Results from the national study of psychiatric morbidity in South Africa revealed a 13.3% lifetime prevalence and early age of onset (21 years) for substance use disorders. This study further reported that alcohol is the main substance being abused (Stein et al, 2008).

1.2.3.3 Substance use disorders and the costs for South Africa

Limited research work done on this subject makes it difficult to appreciate the true extent of the financial cost effect to South Africa as a country, due to substance use disorders. Only one study was conducted and reported in the South Medical Journal in 2014. Substance abuse causes multi-billion-rand loss to South African economy annually. This is mostly as a result of substance related absenteeism, loss of production, health costs and alcohol-related crime. In the year 2014, the total annual financial loss was estimated at 10% of the Gross Domestic Product (GDP), or as much as R37.9 billion (Matzopoulos et al., 2014).

1.2.3.4 Health implications of substance use disorders

Medical comorbidities commonly found in people with substance use disorders, include infectious diseases such as hepatitis and HIV, coupled with their long term physical and neuropsychiatric manifestations. During acute intoxication, people are at an increased risk of respiratory and cardiac events as a result of possible overdose. The risks of accidents and injuries as well as the potential of engaging in violent conduct are high during intoxication (Wadland & Ferenchick, 2004). Disability attributable to substance use were reported to be the highest for tobacco, alcohol, and illicit substances respectively, and similar rates were reported on substance-attributable mortality (Peacock et al, 2018).

Health implications of substance abuse range across all stages of life, and all stages are at risk of suffering from negative health outcomes. These negative outcomes include among others; injuries (falls & motor vehicle accidents), overdose and attempted suicide. Medical implications may include infections, cancer, and heart diseases (Schulte & Hser, 2014).

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This literature review aims to contextualise the study, by providing literature on the relationship between early childhood abuse and later substance abuse in South Africa. There is a paucity of data on the epidemiology of childhood trauma exposure and its relationship to later substance use disorders in South Africa.

2.2 Childhood Trauma in South Africa

The first-ever nationally representative study of child abuse in South Africa found that over forty percent (40%) of young people aged fifteen to seventeen (15 to 17), have been exposed to some form of abuse (sexual, emotional, physical or neglect) in their lives (Burton et al, 2016). Statistics released by parliament in the Republic of South Africa (2018), showed that at least forty-one percent (41%) of all reported rape cases during the past three (3) years involved children. Of the 18.5 million children under the age of eighteen (18) in South Africa, eight percent (8%) have absent fathers, twenty-three percent (23%) live with caregivers or extended family members, and sixty percent (60%) live in poverty (Bateman, 2015).

2.3 Illicit Substance Use in South Africa

Drug trafficking has escalated in South Africa, particularly a few years after the birth of freedom in 1994. Change of government from the apartheid regime to the new government of national unity, unfortunately lead to the relaxation in strict control of the borders. This factor, coupled with South Africa's geographical position and business connections with other countries such as Asia, Latin America, Western Europe and North America made South Africa a preferred location for drug transit.

Effective policing of the traditional international routes together with harsher punishment given to those found guilty of drug trafficking, prompted drug cartels to use South Africa as a preferred location for transporting drugs. Unfortunately while in transit, a significant portion of drugs end up in the local markets and accounts for a large percentage of drugs found in South Africa (United Nations Office for Drug Control and Crime Prevention, 1999).

2.4 Law Enforcement on Illicit Substances in South Africa

South Africa as a country is aware of the current drug production, sale and trafficking trends. There is adequate legislative infrastructure to effect drug counter measures. The justice system has undergone substantial transformation since the birth of democratically elected government in 1994. Much improvement has been made in processing crimes through the criminal justice system, however there are still considerable problems and deficiencies in the judicial and correctional services (United Nations Office for Drug Control and Crime Prevention, 2002).

2.4.1 Patterns of Substance Abuse in South Africa

South African Community Epidemiology Network on Drug use (SACENDU), in its report of January-June 2018, indicated that alcohol is still the dominant substance being abused across most provinces, while cannabis remains the primary or the secondary substance of abuse across all treatment centres. Heroin use is on a continuous rise, particularly in the Gauteng Province. A large number of patients reported smoking heroin in combination with cannabis “nyaope”, while a small proportion reported injecting heroin.

Methamphetamine use is most prevalent in the Western Cape, yet numbers remained low in other treatment sites. Drugs commonly used at clubs (synthetic stimulants such as Methcathinone) and over the counter prescription medicines (OTC) were also commonly used. The use of OTC medication such as slimming tablets, analgesics,

and benzodiazepines, continue to be an issue on all sites. Poly-substance use remains high in all provinces with the majority of patients reporting the use of more than one substance (Dada et al, 2018 January to June).

2.5 Physiological Effects of Early Childhood Trauma Exposure

Childhood is a critical period for proper development of the child's brain. It is a well know concept that any exposure to stress during this period, will have adverse effects that will persists for years in the life of the child. Early trauma exposure has been shown to negatively impact important areas of functioning such as, reactivity to stress, immune system, physical wellbeing and mental functioning. All these effects have the potential to impair the normal transition into adulthood and contributes to disorders such as substance use among others (Hart & Rubria, 2012 as cited by Edalati & Krank, 2015).

The activation of the hypothalamic-pituitary-adrenal axis (HPA) is the most studied and well documented neuro-endocrine response to stress. Exposure to stress during this period of active brain development leads to activation of the HPA-axis, which may lead to negative reactivity towards stress. Childhood maltreatment increases vulnerability to disease including substance use disorders, by altering the expression of genes regulating the HPA-axis and the immune response (Edalati et al, 2015).

2.5.1 Relationship between Childhood Trauma and Substance Abuse

As outlined in the previous section above, the physiological effects of early childhood abuse on the development of the brain, has a negative impact on important areas of functioning later in adult life. Research in this area has highlighted the association between childhood maltreatment and the risk of developing mental illnesses including substance use disorders. Furthermore, research on this topic recommends the importance of early identification and use of preventative strategies in those with a history of childhood maltreatment (Longmang-Mills et al, 2015). Childhood

maltreatment is a common finding in people with substance use disorders, and this group of people often share similar demographic characteristics. They include unemployment, low level of education, single marital status and high prevalence of criminal history (Mitchie et al, 2017. These demographic findings may be interpreted as an indication of the level of impairment associated with both childhood trauma and substance use disorders. Other significant findings included the presence of a history of early childhood trauma, as well as increased prevalence of infections and physical illness. With the above findings, it is clear that substance use disorders also put a lot of strain on families and society as a whole. This is usually through substance related poor health, crime and poverty (Grant, Saha & Ruan, 2015).

South Africa had been dominated by racial and political violence arising from the apartheid era, this exposed a large percentage of citizens to direct and indirect traumatic experiences. These experiences include physical and sexual assault, among others. In the post-apartheid era, these violent acts, including social inequity and economic disparity, continue to be on the rise, leading to increased substance use disorders (Atwoli et al, 2013). Edalati et al, (2019) looked at adverse childhood experiences and the risk of criminal justice involvement and victimization among homeless adults with mental illness. Exposure to adverse childhood experiences was highly prevalent among homeless individuals and was associated with negative consequences during homelessness, such as criminal justice involvement and the use illicit substances.

In a prospective study of the association of childhood trauma exposure with adult psychiatric disorder and functional outcomes, Copeland et al. (2018) found that childhood exposure to trauma predicted an increased risk of suffering from adult psychiatric disorders, including substance use disorders. It was also associated with poorer functional outcome and significant indicators of disrupted transition into adulthood (e.g., health, criminal behaviour, financial and employment status, educational and social functioning).

Pennebaker and Susman (1988) through a series of studies investigating childhood traumatic experiences, developed a general theory of inhibition and psychosomatics. According to their findings, the inhibition of traumatic thoughts, feelings or behaviour is associated with an increased probability of psychosomatic disease. They concluded that childhood traumatic experiences that are not discussed are linked with current health problems and confronting earlier traumas and sharing them with others improves health and immune system functioning. Brady & Back, (2012), reported that trauma exposure is understood to precede the onset of substance use disorders, which indicates that most victims of maltreatment could be using substances as a coping mechanism.

The experience of death in early childhood (before the age of 18 years), increases the risk of having mental disorders such as depression and substance use disorders. This risk is found to be increased if people experience death of close family members, such as parents. The risk is similar for the experience of both maternal and paternal death, however there is a reported two to three-fold increase if the cause of death was from unnatural cause as compared to natural cause (Berg et al, 2016).

Hamdam et al. (2013) also concluded that young people who lost their parent(s) through death, are at a greater risk for alcohol and substance use disorders, compared to their non-bereaved counterparts. They further reported that retrospective studies have generally found that parental separation and early childhood adversity have a greater impact on alcohol and substance abuse than grieving the loss of parent(s) per se. Parentally bereaved youths were found to show higher rates of alcohol and substance abuse symptoms than their non-bereaved counterparts.

CHAPTER 3: AIM, OBJECTIVES, METHODS AND MATERIAL OF THE STUDY

3.1 Aim

The aim of the study was to investigate the association between substance abuse and early childhood trauma.

3.2 Objectives of the study

The objectives of the study:

- To describe the demographics, as well as psychosocial and other clinical variables of this group.
- To compare patterns of substance abuse among individuals with early childhood trauma experiences to those who did not experience trauma, and to determine whether any associations exist.

3.3 Hypothesis

There is a high frequency and severity of early childhood trauma exposure (ECTE) in people seeking help for substance abuse.

3.4 Methodology

3.4.1 Study Design

This is a cross-sectional study that took place at the Ithemba Clinic, Sterkfontein Hospital in Krugersdorp (see Appendix V) and the SANCA Vaal Triangle (see Appendix VI) rehabilitation centres in Gauteng province, where patients are admitted for substance abuse rehabilitation. The participants were interviewed just prior to their discharge to avoid problems with reliability and withdrawal symptoms.

The participants were recruited with the help of managers and nursing personnel in the respective centres. The role of managers was limited to introducing the researcher to participants and providing the necessary space for interviews during the process of data collection. The principal investigator held meetings with all groups of patients, as each group was admitted for a period of six weeks. These meetings were used to hand out information sheets (see Appendix I) and to explain the purpose of the research project.

These meetings also assisted in building a rapport with the willing participants, since the study focuses on past traumatic experiences. Following the handing out of information sheets and explaining the research project, informed consent (see Appendix I) was obtained from the participants, who voluntarily agreed to take part in the study.

3.4.2 Childhood Traumatic Event Scale (CTES)

In order to answer this question, the CTES scores were divided into two groups comprising low and high scores, (see Appendix IV). As described by the authors of the CTES, Pennebaker and Susman (1988), there were no scoring key or norms. The scale could be scored in any way preferred by the user in order to assess whether there were any associations between trauma experienced (severity) and patterns of substance use.

For the purposes of this research study, the CTES scores were interpreted in the following manner: the low scores were from six (6) to twenty-one (21) points, while the high scores were from twenty-two to forty-two (22 to 42) points. In the same manner, the CTES scores were used to determine the extent to which participants confided in others about their past traumatic experiences. The CTES were divided into two groups consisting of a low level of confiding in others which ranged from six to twenty-one (6 to 21) points and a high level of confiding in others which ranged from twenty-two to forty-two (22 to 42), (see Appendix IV).

3.4.3 Data Collection

Once informed consent had been obtained from the participants, a data collection sheet (see Appendix II) was used to collect information regarding demographic data, substance history, family history of substance use, social support and forensic history. Open-ended questions were included to ensure that the objectives of the study were met. The questionnaire was personally delivered to the participants by the principal researcher.

The Childhood Traumatic Event Scale (see Appendix III) was administered to collect information regarding past traumatic experiences, past feelings as well as behaviour. This is a six (6) item questionnaire which covers six (6) types of traumatic experiences (loss of loved one, physical, sexual, emotional, neglect and separation). The participants also rated how traumatic each event had been and whether they had confided in others about their experience. This six item self-report questionnaire has been shown to be reliable and valid (Pennebaker & Susman, 1988; Barsky, Wool & Barnett, 1994).

3.4.4 Sample Size and Data Analysis

The study included a hundred and nineteen (119) participants who were admitted to the substance rehabilitation programme, both at the Ithemba Clinic as inpatients for six (6) weeks as well as those who attended SANCA Vaal Triangle as outpatients. The SANCA Vaal Triangle comprised patients who attended three different clinics (Levai Mbatha, Sharpeville and Empilisweni Clinics). The Ithemba Clinic admits male patients only, while only two (2) females attended SANCA Vaal Triangle as outpatients at the time of data collection for this study.

The study included male and female participants from the age of eighteen (18) and older, who were admitted for substance rehabilitation and who were nearing the

completion of their rehabilitation programme (in their last week of admission). A descriptive and a comparative analysis was used for all categorical and numerical variables included in the questionnaire.

Correlations between demographics, childhood trauma and different substances of abuse were analysed by means of *t*-tests and Pearson's correlation coefficient (r). The odds ratios (OR) were used to determine the probability of certain categories of trauma leading to the different use of substances and *p*-value to be set at 0.05. The analysis was carried out using IBM SPSS version 13.

3.4.4.1 Inclusion criteria

All the patients who were willing to participate and who signed an informed consent form were included in the study.

3.4.4.2 Exclusion criteria

There were no exclusion criteria in this study.

3.4.5 Ethical Considerations

This study was approved by the University of the Witwatersrand Human Research Ethics Committee, (see Appendix VIII). Written informed consent was obtained from all the participants and their records were kept and were treated as confidential and in accordance with the South African Good Clinical Practice Guidelines. Permission was obtained from the clinical managers of the respective rehabilitation centres (Ithemba Clinic and SANCA Vaal Triangle).

A distress protocol was followed prior to initiating the data collection through interviews, since the questionnaire included questions about the participant's previous

history of trauma. An arrangement was made with an in-house psychologist or counsellor for the further management of patients who might have become distressed during the interviews, and if necessary, a referral to a mental health care practitioner for specific treatment was considered. A special arrangement with a separate registered clinical psychologist not involved with the patients' rehabilitation programme, was made where extensive counselling and psychotherapy would be provided if deemed necessary (see Appendix VII).

CHAPTER 4: THE RESULTS

4.1 Introduction

This chapter deals with an inclusive set of results from the analysis conducted, including a section on the response rates as well as missing values. In this section, exploratory data analysis was employed to identify the missing values and outliers. Reliability estimates were then calculated, based on Cronbach's alpha (Tavakol & Dennick, 2011). Explanatory factor analysis was employed to identify the dimensions of the analysis (Tate, 2003).

Descriptive statistics which is used to describe key features of the data (means, median range and interquartile range) were determined and used to analyse two important features of score distribution amongst the scales: central tendency and variability. To achieve the objectives of this study, which was to investigate the association between substance abuse and early childhood trauma, correlations between demographics, childhood trauma and abuse of various substances were analysed by means of t-tests and Pearson's correlation coefficient (r).

The association between the forensic history of the patients and their trauma was analysed. In order to avoid the impact of possible bias in the demographics (e.g. older women and younger men), the differences in the demographic variables were not tested one on one. Thus, gender variables were assessed as a unit. Similarly, age bands were also assessed as a unit instead of as individual age bands. This approach was also employed for other demographic variables such as the level of education, the marital status as well as the employment status.

The study adopted a stepwise logistics regression modelling approach to assess study objectives. The odds ratios (OR) were reported and used to determine the probability of certain categories of trauma leading to the different use of substances. Categorical

demographic data with very low response rates were clustered together. Statistical significance tests were conducted at $\alpha = 0.05$ level ($p < 0.05$).

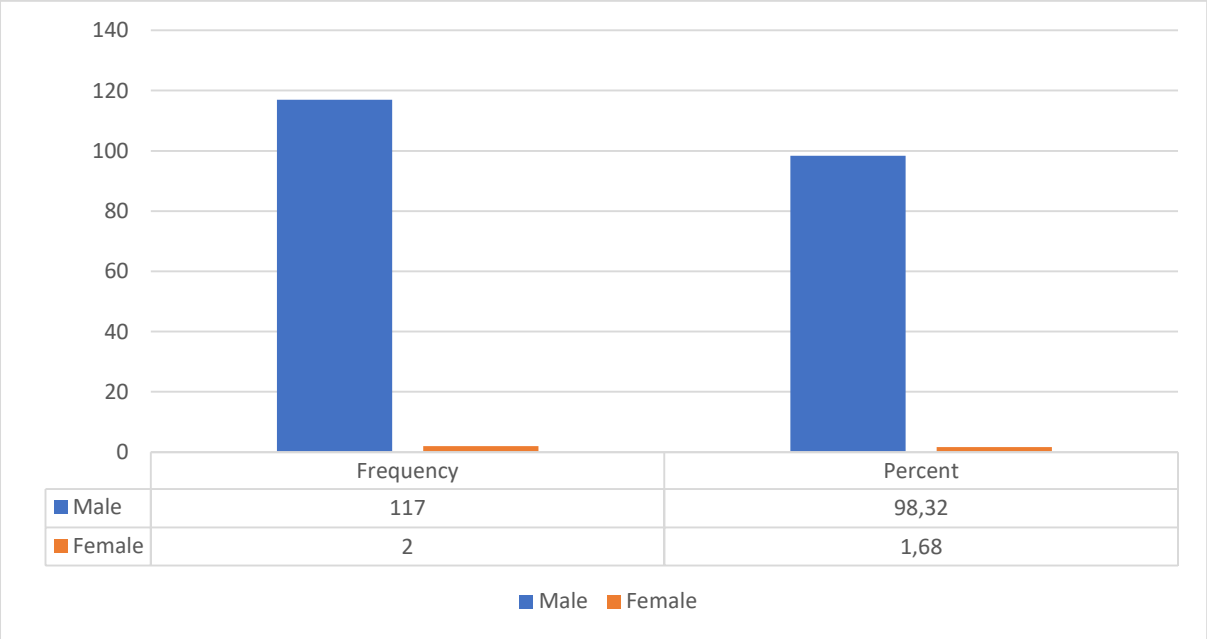
4.2 Response Rate and Missing Values

The targeted sample size of the study was a population size of a hundred and twenty (120) participants and a total of a hundred and twenty (120) interviews were completed, using a separate data collection sheet and a CTES questionnaire. The frequency count of the missing values amongst the demographic variables was minimal, as most of the participants answered all the questions in the survey.

4.3 Demographic Characteristics

4.3.1 Gender

Of the participants in the study (n= 119), a hundred and seventeen (n=117) (98**,** 32**%**) were male and only two (n=2) were female. One (n=1) of the participants did not indicate his or her gender.



	Frequency	Percent
Male	117	98,32
Female	2	1,68

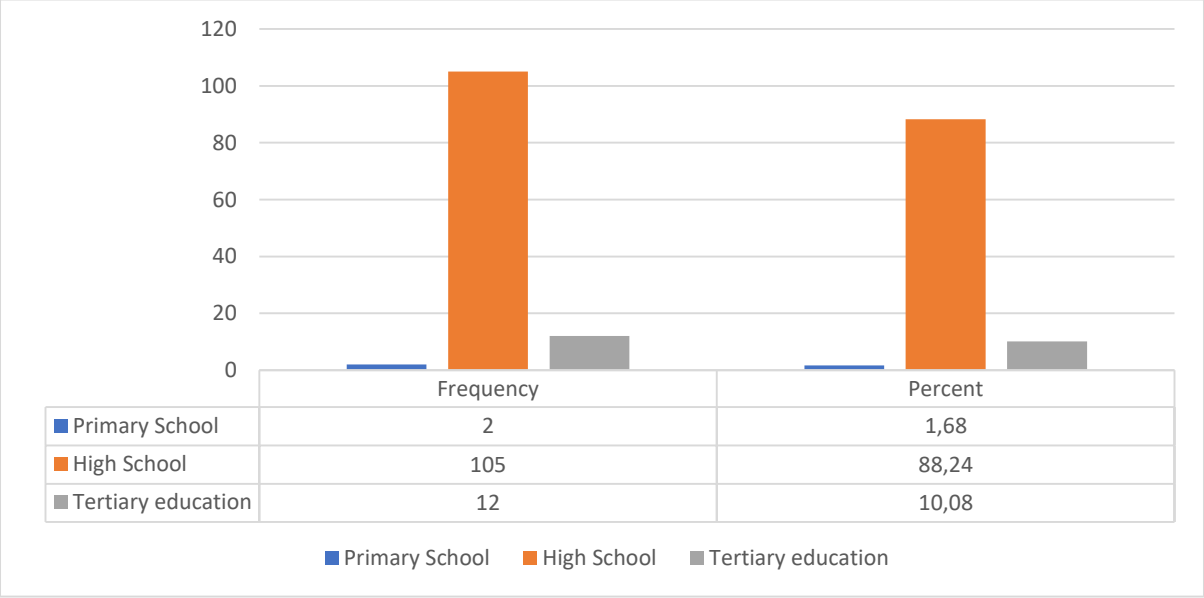
Figure 4.1: Gender distribution of the participants

4.3.2 The Average Age of the Participants

The age of the participants ranged between eighteen (18) and fifty-eight (58), and the average age of the participants was 27.9 (standard deviation = 6,9).

4.3.3 The Level of Education

When assessing the level of education, the data revealed that most of the participants had a high school level of education with a response rate of nearly ninety-eight percent (98%). Just over ten percent (10%) of the participants had a tertiary education (10.08%) and a significantly small proportion had a primary school level of education only.

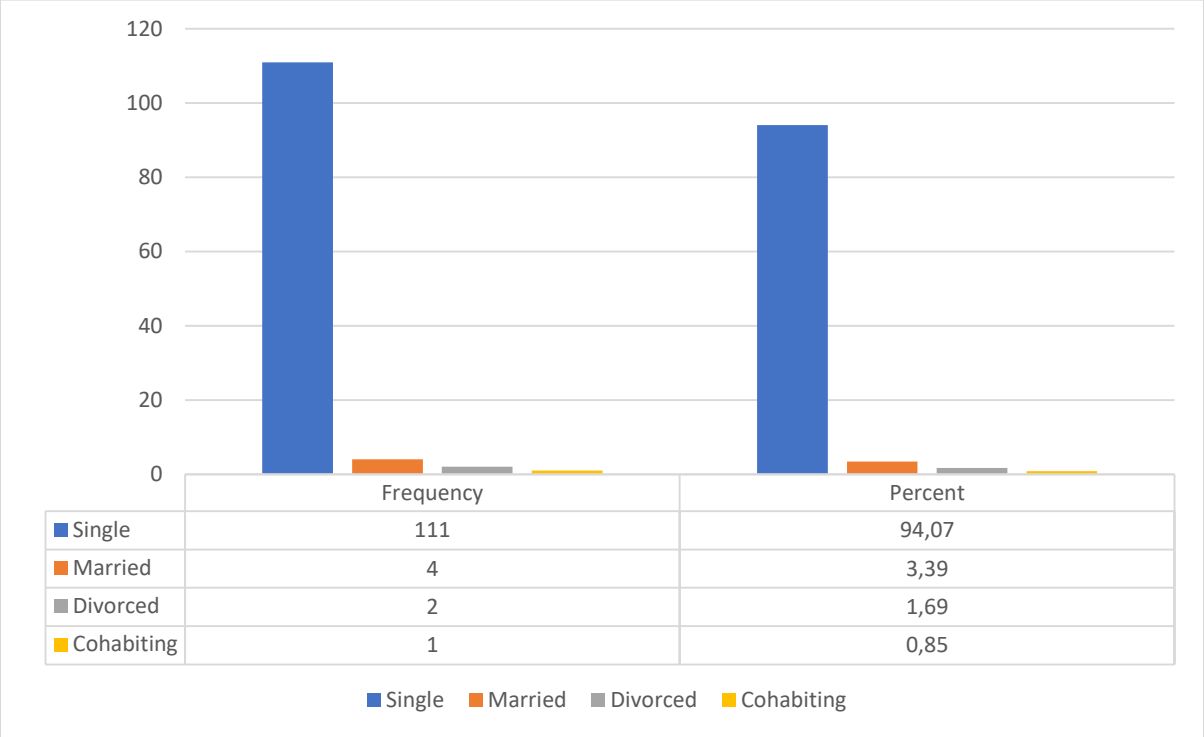


	Frequency	Percent
Primary School	2	1,68
High School	105	88,24
Tertiary education	12	10,08

Figure 4.2: Education level of the participants

4.3.4 Marital Status

Considering the marital status of the participants, a hundred and eleven (111) (94.07%) lived alone or were single. Seven (7) of the participants (5.93%) were either married, divorced or cohabiting. Two (2) of the participants did not indicate their marital status.



	Frequency	Percent
Single	111	94,07
Married	4	3,39
Divorced	2	1,69
Cohabiting	1	0,85

Figure 4.3: Marital status of the participants

4.3.5 Employment Status

The employment status of the participants is presented in Figure 4.4 below. The majority of the participants – almost ninety percent (87, 39%) were unemployed; meaning that only 12.61% of the participants were employed, depicting a large number of participants who were not in the job market.

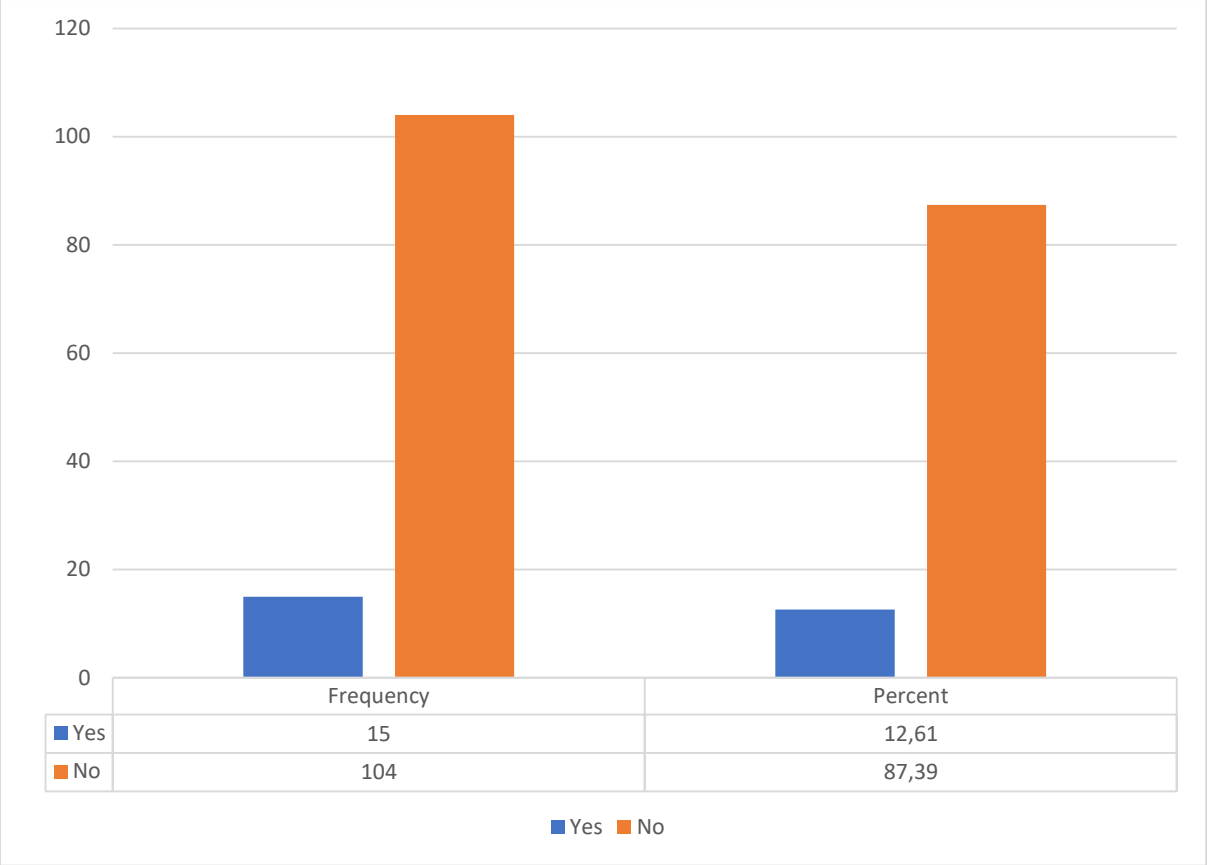


Figure 4.4: Employment status of the participants

4.4 Social Support, Substance Used or Abused, and Offenses Committed

4.4.1 The Type of Support Received by the Participants

Table 4.1 below presents the frequencies and the percentages of social support received by the participants. The majority – just over ninety percent (90%) – received social support; (96,3%) of the sample received social support from family.

A small proportion of the participants, almost three percent (2,8%), received support from a friend and less than one percent (1%) of the participants received support from the community.

Table 4.1: Frequency distribution of social support received by the participants

		Frequency	Percentage
Social support	Yes	107	90.68
	No	11	9.32
Total		118	
If yes, what type of social support do you have	Family	103	96.26
	Friends	3	2.80
	Community	1	0.93
Total		107	

4.4.2 The Type of Substance Abused by Parents

Slightly less than half of the hundred and nineteen (119) participants, fifty-four (54) (45%) had parents with a history of alcohol and/or other substance abuse, and sixty-five (65) (55%) did not, as depicted in Table 4.2 below. Of those who reported parental alcohol and other substance abuse, thirty-five (35) (64.81%) were either the father or the mother, eighteen (18) (33.33%) were both mother and the father and (1,85%) from all three (father, mother and a caregiver). The parents who were abusing alcohol and other illicit substances in the household were mainly the fathers at thirty-four (34) (64%,15%).

Table 4.2: Frequency distribution of substance abuse by parents

		Frequency	Percentage
Parental alcohol and other substance abuse	Yes	54	45.00
	No	65	55.00
Total		119	
If yes	One Parent	35	64.81
	Two Parents	18	33.33
	Three Parents	1	1.85
Total		54	

Parental alcohol and other substance abuse by count of parents category

	Father	**Mother**	**Caregiver**
One Parent	34		1
Two Parents	18	17	1
Three Parents	**1**	**1**	**1**
Total	**53**	**18**	**3**

Alcohol was the most frequently used type of substance and accounted for 84.91%. Cannabis was the second most abused substance at nine percent (9%) (by parents). Nicotine and Mandrax accounted for almost six percent (6%).

Table 4.3: Frequency distribution of the type of substance used by parents and the types of substances used by the participants

		Frequency	Percentage
Type of primary substance used by the parents	Alcohol	45	84.91
	Cannabis	5	9.43
	Nicotine	1	1.89
	Mandrax	2	3.77
Total		53	
Types of substances used by the participants	Primary (Any of the substances**)	30	25.42
	Secondary (Any two of the substances**)	67	56.78
	Poly (More than two substances**)	21	17.80
Total		118	

**Types of substances (Nicotine, Mandrax, Cannabis, Alcohol, Stimulants, and Opioids).

4.4.2 Type of Offenses by the Participants

Of all the hundred and sixteen (116) participants who answered the question concerning their forensic history, fifty-eight (58) fifty percent (50%) had had problems with the law. Of these, fifty-four (54) i.e. ninety-five percent (95%) were officially charged and investigated by the South African Police Services and Courts of Law. Twenty-three (23) (35.94%) had committed theft, seven (7) (10.94%) had committed

physical assault and thirty-four (34) (53.12%) were other (possession of drugs, selling of drugs and public drinking).

Table 4.4: Frequency distribution of the criminal aspects of the participants

		Frequency	Percentage
Forensic History (Have you had problems with the law)	Yes	58	50,0
	No	58	50,0
Total		116	
If yes, was the offense reported to the authorities?	Yes	54	94,7
	No	3	5,3
Total		57	
Type of criminal offense committed?	Theft	23	35.94
	Physical assault	7	10.94
	Other	34	53.12
Total		64	

4.5 THE RESULTS ON VARIOUS TRAUMATIC EVENTS

The objective of this section was to compare patterns of substance abuse among individuals who had experienced childhood trauma and those who had not experienced trauma; and to determine whether any associations existed between patterns of substance abuse and childhood trauma. After collecting data about participants' past traumatic experiences using the CTES, it was noted that all participants reported some form of trauma. Due to this finding, the primary objective as described above was adjusted to rather compare two groups of people, those with lower and high trauma scores and see if any patterns of substance use and associations existed between the two groups. Therefore, analysis of the total trauma score (high versus low) was conducted on certain variables of interest (Forensic history by number of substances abused/categories of substance abused: primary/one

substance, secondary/two substances and polysubstance/more than two substances as well as Forensic history by the level of trauma and the level of confiding in other scores). See tables 4.7- 4.15; figures 4.5 and 4.6.

4.5.1 Childhood Traumatic Events Scale

Table 4.5 below shows the frequency and the percentage of the major traumatic events experienced by participants before the age of seventeen (17). Regarding all major events, the majority had experienced trauma before the age of seventeen (17), except for traumatic sexual experiences.

Table 4.5 below further depicts that significantly more participants had experienced the death of a very close friend or a family member. Nearly eighty percent (80%) of the participants had experienced such an event. An overwhelmingly high number of participants had experienced major upheavals other than divorce or separation. Nearly ninety-five percent (95%) of the participants had experienced these traumatic events.

Over half of the participants had experienced a major upheaval between their parents (such as divorce and separation, 56.9%). This was similar to the participants who had been extremely ill or injured, (53.4%). There were very few participants who had experienced sexual trauma (less than six percent (6%)).

Table 4.5: Frequencies of childhood major traumatic events experienced prior to the age of seventeen (17)

Prior to the age of seventeen (17)			
		Frequency	**Percentage**
Did you experience the death of a very close friend or a family member?	Yes	93	78,2
	No	26	21,8
Total		119	100,0
Was there a major upheaval between your parents (such as divorce, separation)?	Yes	67	56,3
	No	52	43,7
Total		119	
Did you have a traumatic sexual experience?	Yes	6	5,1
	No	112	94,9
Total		118	
Were you the victim of violence (child abuse, mugging, assault or other)?	Yes	66	56,9
	No	50	43,1
Total		116	
Were you extremely ill or injured?	Yes	62	53,4
	No	54	46,6
Total		116	
Did you experience any other major upheaval that you think may shape your life or your personality significantly?	Yes	112	94,9
	No	6	5,1
Total		118	

Table 4.6 below depicts the median age of exposure to an early childhood trauma experience, the level of confiding as well as the trauma scores of the major events. The trauma of a major upheaval event between parents (which included factors such as divorce and separation) – was assessed over ten (10) (IQR 7-16) years. The second youngest age comprised individuals who had experienced death in the family with the median age of thirteen (13) (IQR 11-16).

The median age for the participants who had been victims of violence and those who were ill or injured was fourteen (14) (IQR interquartile range 10-15) and fourteen (14)

(IQR 10-16), respectively. The last category which included more than ten (10) subcategories labelled “any other major upheaval event” was not included in the results of this section, due to the spread and the smaller sample sizes amongst the subcategories.

Table 4.6: Median age of exposure to early childhood trauma, the level of confiding and the trauma scores

	Variable	N	25th percentile	Median	75th percentile
Age (years)	Death	92	11.00	13.00	16
	Ill, injured	61	10.00	14.00	16
	Major upheaval	67	7.00	10.00	12
	Victim of violence	66	10.00	14.00	15
Confiding in others	Death	91	2.00	3.00	4
	Ill, injured	61	3.00	3.00	4
	Major upheaval	67	2.00	3.00	3
	Victim of violence	66	2.00	3.00	4
Trauma Score	Death	92	5.00	7.00	7
	Ill, injured	62	4.00	6.00	7
	Major upheaval	67	5.00	7.00	7
	Victim of violence	65	5.00	6.00	7

In terms of the nature of the trauma and the severity of the impact on the participants, the median ratings ranged between the ages six to seven (6 to 7), thus depicting the impact on the participants as extremely high. Exposure to death at an early age or a major upheaval event (divorce and separation of parents) had the highest median rating scales of seven (7) (IQR 5-7). Being a victim of violence had a rating of six (6) (IQR 5-7) and those who had been exposed to an illness or to injury had a median score of six (6) (IQR 4-7). A noteworthy feature of the data was that the ratings on whether the participants confided in others about a traumatic event were akin to the

average confiding score of three (3) (IQR 2-4). This depicts that the study participants rarely confided in others about traumatic events.

4.5.2 Analysis of the Total Trauma Score by Demographics and other Variables of Interest

Table 4.7 below depicts the total trauma score applicable to select demographic characteristics. There were significantly more male than female participants and gender (males only) was moderately significant when adjusting for the total trauma scores. Generally, the trauma score was low among males (p-value = 0.0775). There were more participants who were not married (94.07%). Marital status was not significant when adjusting for total trauma scores. Generally, the trauma score was low (p-value = 0.3186). There were more participants who were not employed (87.39%) and employment status was shown as not significant when adjusting for total trauma scores. Generally, the trauma score was low (60.5% vs. 39.5%) respectively (p-value =0.9659).

Table 4.7: Total trauma score by demographics

Total Trauma Score		Low	High	Total	p-value
Gender	Male	60,5	37,82	(n = 117) 98,32	0,0775
	Female	0	1,68	(n = 2) 1,68	
	Total	60,5	39,5	(n = 119) 100,00	
Marital Status	Single	55,08	38,98	(n = 111) 94,07	0,3186
	Married	3,39	0	(n = 4) 3,39	
	Divorced	0,85	0,85	(n = 2) 1,69	
	Cohabiting	0,85	0	(n = 1) 0,85	
	Total	60,17	39,83	(n = 118) 100,00	
Employed	Yes	7,56	5,04	(n = 15) 12,61	0,9659
	No	52,94	34,45	(n = 104) 87,39	
	Total	60,5	39,5	(n = 119) 100,00	

A large number of the participants received some form of social support. When adjusting for trauma scores, these were statistically significant (p-value = 0.016). Nearly sixty percent (60%) of the participants who received social support had low trauma scores, in contrast to those who had high trauma scores on the trauma scale.

Table 4.8: Table of total trauma score by social support

Total Trauma Score	**Social Support**			
	Yes	No	Total	p-value
Low	58,47	2,54	61,02	0,016
High	32,2	6,78	38,98	
Total	(n = 107) 90,68	(n = 11) 9,32	(n = 118) 100,00	

A significant number of the participants received support from their families. When adjusting for the trauma scores, these participants had predominantly lower scores (p-value = 0.0267). Just more than two thirds of the participants who received family support had a low trauma score compared with those who did not have family support.

Table 4.9: Table of total trauma score by type of social support

Total Trauma Score	**Type of social support**				
	Family	Friends	Community	Total	p-value
Low	63,55	0	0	63,55	0,0267
High	32,71	2,8	0,93	36,45	
Total	(n = 103) 96,26	(n = 3) 2,80	(n = 1) 0,93	(n = 107) 100,00	

4.5.3 Distribution of substance abuse categories by Trauma and Confiding categories

Table 4.10 below depicts confiding scores and trauma scores against three categories of substance abuse. The results revealed, significantly more scores for confiding are mainly on low categories. Therefore, comparison between low/high confiding scores and categories of substance use could not be made. However, trauma scores are evenly distributed between the Low and High categories. Test statistics were mainly conducted to test the differences between the Low and High categories for the Trauma scales across the three substance abuse categories. There were no differences between High and Low categories, with 40% vs. 60% for the One substance of abuse, this was not statistically significant (p-value=0.311). However, the two substances of abuse category were approaching statistical significance with the p-value =0.072, with proportions 38% and 62 % for High and Low, respectively. Lastly, there were no significant differences between High and Low trauma scores, when analysing for the use of more than two substances category (62% vs. 38%) and p-value =0.226. This could also be attributed to low frequencies between the two groups.

Table 4.10: Table of Confiding and Trauma scores by substance abuse categories

Frequencies					
		One substance	Two substances	More than two substances	Total
Confiding	High		2		2
	Low	25	63	29	117
	Total	***25***	***65***	***29***	***119***
Trauma	High	10	25	18	53
	Low	15	40	11	66
	Total	***25***	***65***	***29***	***119***
Percentages (%)					
		One substance	Two substances	More than two substances	Total
Confiding	High	0%	3%	0%	2%
	Low	100%	97%	100%	98%
Trauma	High	40%	38%	62%	45%
	Low	60%	62%	38%	55%
p-values		***0.3112***	***0.072***	***0.226***	

When controlling for parental alcohol and other types of substance abuse (Yes/No), the participants generally had a low trauma score (60.5 % vs. 39.5%). In more than half of the participants there was no parental alcohol and other substance abuse (Yes: 45.38% and No: 54.62%) and this difference was statistically significant (p-value = 0.0039), table 4.11.

Table 4.11: Table of total trauma score by parent alcohol usage and other substance use

Total Trauma Score	Parental alcohol and other substance use			
	Yes	No	Total	p-value
Low	21,01	39,5	60,5	0,0039
High	24,37	15,13	39,5	
Total	(n = 54) 45,38	(n = 65) 54,62	(n = 119) 100,00	

When controlling for the type of substance used by parents, the participants whose parents use substances generally had a high trauma score, compared to those whose parents did not use substances (52.83 % vs. 47.17%) and this difference was not statistically significant (p-value = 0.4246). A noteworthy feature of the data, though, was that the participants had mainly consumed alcohol (84.91%), followed by cannabis at (9.437%), table 4.12.

Table 4.12: Table of total trauma score by type of substance used by parents

Total Trauma Score	Type of substance used of parents					
	Alcohol	Cannabis	Mandrax	Nicotine	Total	p-value
Low	41,51	3,77	1,89	0	47,17	0,4246
High	43,4	5,66	0	3,77	52,83	
Total	(n = 45) 84,91	(n = 7) 9,437	(n = 1) 1,89	(n = 2) 3,77	(n = 53) 100,00	

Regarding forensic history, the participants generally had low trauma scores if they answered “yes”, compared with those who answered “no”, table 4.13. This difference was not statistically significant (p-value = 0.2753). A noteworthy feature of the data though, was that the participants who had a forensic history had a high trauma score (31.93%), almost twice the number of those who had a low trauma score (16.81%).

Table 4.13: Table of total trauma score by forensic history

Total Trauma Score	Forensic History			
	Yes	No	Total	p-value
Low	31,93	28,57	60,5	0,2753
High	16,81	22,69	39,5	
Total	(n = 58) 48,74	(n = 61) 51,26	(n = 119) 100,00	

Further comparison analysis was conducted to assess the relationship between forensic history and pattern of substance abuse. Forensic history of the participants was compared with the three categories of substance use, to see if any association existed. Respondents who had a forensic history were compared with those who did not across the three substance abuse categories. The results showed that the category of two substances of abuse was the most associated with a forensic history (28% vs 24%, p-value= 0.726) followed by the category of more than two substances of abuse (14% vs. 10%, p-value= 0.751) and lastly the category of one substance of abuse (7% vs.14%, p-value= 0.628), respectively (Figure 4.5) below.

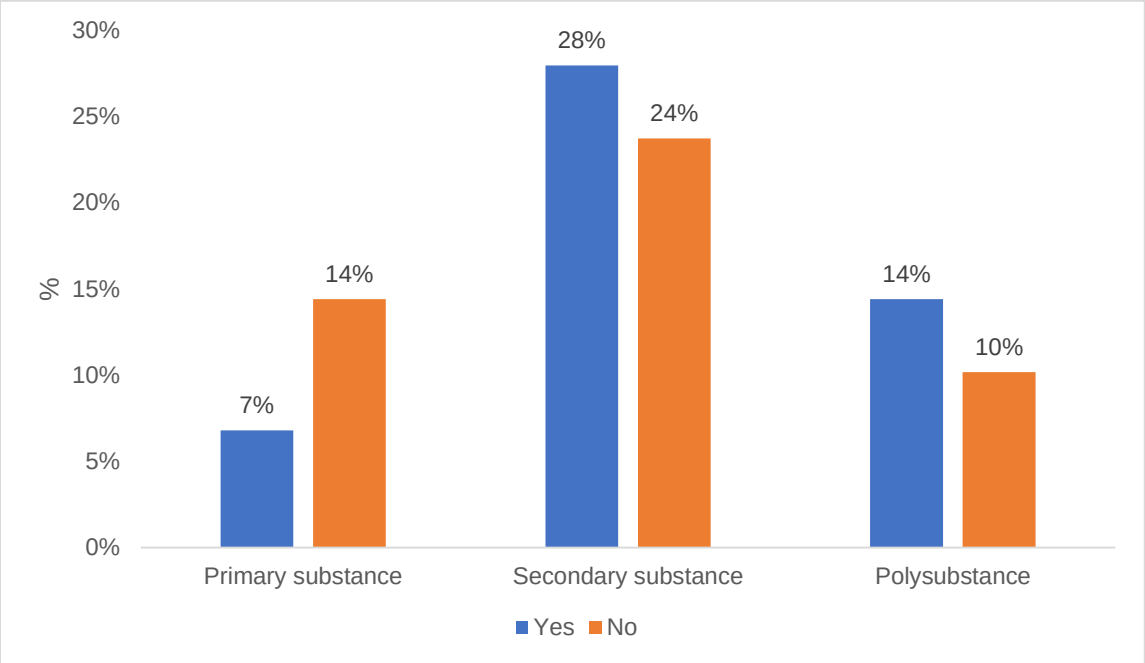


Figure 4.5: Forensic history by number of substances abused, %

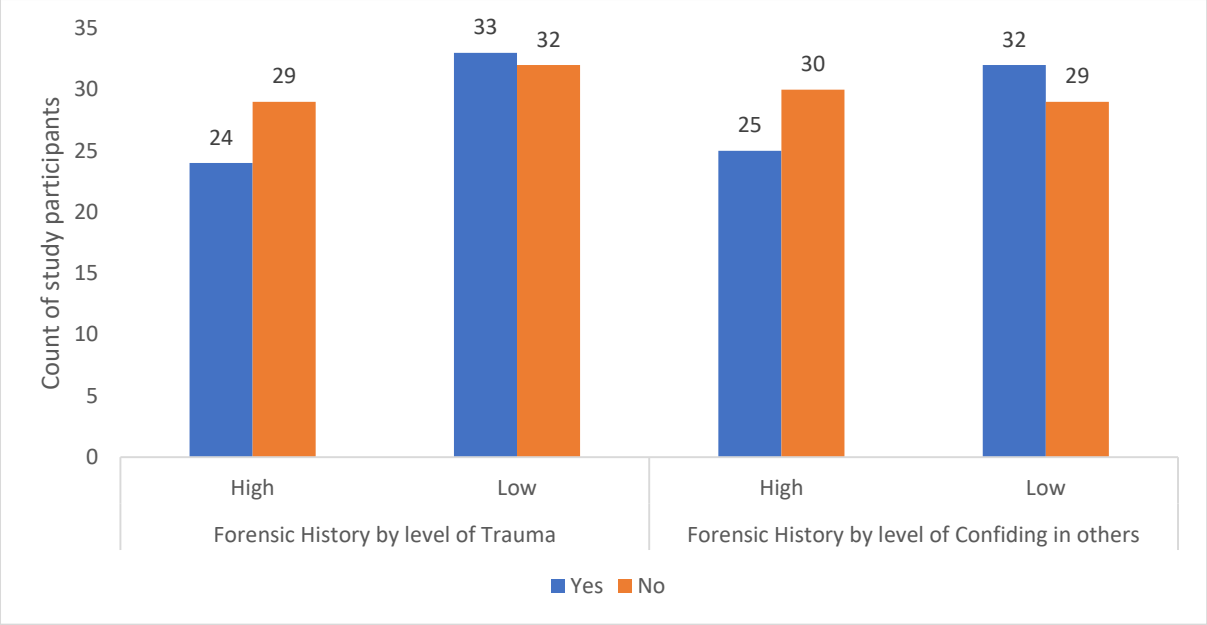


Figure 4.6: Forensic history by the level of trauma and the level of confiding in other scores

Figure 4.6 above depicts the level of trauma and confiding in others' scores based on whether offenses were investigated by the (SAPS) or not. The results depicted that there were no significant differences between those who had a forensic history and those who did not (p-value = 0,2753).

When controlling for whether the committed criminal offense was reported to (SAPS) or not, the participants whose offences were investigated, generally had low trauma scores (64.91 % vs. 35.09%) when compared to those whose offenses were not investigated. This difference was not statistically significant (p-value = 0.239). A noteworthy feature of the data though, was that the participants whose offenses were kept secret and were not investigated had high trauma scores. For theft and other types of offenses (possession of drugs, selling of drugs and public drinking) the trauma scores were low table 4.14.

Table 4.14: Table of total trauma score versus offense reported (Yes/No)

Total Trauma Score	**If yes was the offense reported**			
	Yes	No	Total	p-value
Low	63,16	1,75	64,91	0,239
High	31,58	3,51	35,09	
Total	(n = 54) 94,74	(n = 3) 5,26	(n = 57) 100,00	

When controlling for the types of criminal offenses, the participants generally had a low trauma score (66.07% vs. 33.93%) but this difference was not statistically significant (p-value = 0.3902). A noteworthy feature of the data though, was that the participants who had committed physical assault and other types of offenses had a high trauma score. For theft and other types of offenses, the trauma scores were low, table 4.15.

Table 4.15: Table of total trauma score by the type of criminal offense

	Theft	Physical assault	Other offenses	Total	p-value
Low	26,79	3,57	35,71	66,07	0,3902
High	14,29	5,36	14,29	33,93	
Total	(n = 23) 41,07	(n = 5) 8,93	(n = 28) 50,00	(n = 56) 100,00	

4.5.4 Correlation analysis and type of substance use by the participants

Table 4.16 below depicts that cannabis was the most common substance used by the participants (70.83%), followed by opioids (65%), alcohol (30.8%) and stimulants (24.2%). Cannabis was highly correlated with opioid use (rho = 0.490, p-value = < 0.001). By contrast, the use of cannabis was negatively correlated with alcohol use and stimulant use, (rho = -0.207, p-value = 0.0235) and (rho = -0,237, p-value = 0.0091) respectively. Alcohol use was negatively correlated with stimulant (NS) and opioids use, (rho = -0,082, p-value = 0.3742) and (rho = -0,380, p-value = <.0001), respectively. Lastly, opioids use was negatively correlated with stimulants (rho = -0,320, p-value = 0.0004).

Table 4.16: Correlation analysis on the types of substances used by the participants, Correlation coefficient and p-values

Type of substance used	Mean	Std Dev	Cannabis	Alcohol	Stimulants	Opioids
Cannabis	0.70833	0.45644	1.000			
Alcohol	0.30833	0.46374	-0.207 0.0235*	1.000		
Stimulants	0.24167	0.42989	-0.237 0.0091*	-0.082 0.3742*	1.000	
Opioids	0.65000	0.47897	0.490 0.001*	-0.380 0.001*	-0.320 0.004*	1.000

*p-value<0.005

4.5.5 Association between a traumatic life experience and type of substance used

When controlling for the type of substance abuse, there were generally more participants who used cannabis (94.12%); followed by alcohol (4.20%). More than half of the participants depicted low trauma scores (60.45% vs. 39.5%. This difference was not statistically significant (p-value = 0.3913), table 4.17.

Table 4.17: Table of total trauma score by type of substance

Total Trauma Score	Type of Substance					
	0	Cannabis	Alcohol	Stimulants	Total	p-value
Low	0,84	56,3	3,36	0	60,5	0,3913
High	0	37,82	0,84	0,84	39,5	
Total	(n = 1) 0,84	(n = 112) 94,12	(n = 5) 4,20	(n = 1) 0,84	(n = 119) 100,00	

The results depicted in Table 4.18 below show the average of participants exposed to illness or to an injury and the use of cannabis. The finding depicts that the earliest age of exposure of the participants consuming cannabis was 13.66 years CI (12.898-14.435) vs. 9.824 CI (7.376-12.271) and the difference in an age group of 9.8 versus 14.4 was statistically significant at p-value = 0.0001.

Table 4.18: Average age of the participants exposed to illness or to an Injury and the use of cannabis

Cannabis	Mean	95% CL Mean		Std Dev	95% CL Std Dev		p-value
No	9.8235	7.3763	12.2707	4.7597	3.5449	7.2439	0.0001
Yes	13.6667	12.8980	14.4353	2.5584	2.1180	3.2318	

The results depicted in Table 4.19 below shows the difference between the level of confiding to others (how much did they confide in others on a scale of 1-7), being participants who were exposed to an illness or to an injury and the type of substance used. The results show that the rating scores for the participants who consumed cannabis were slightly higher than those who did not at 3.882 CI (3.092-4.672) vs. 3.0889 CI (2.7966-3.3812); this difference was statistically significant at p-value = 0.0184.

Table 4.19: Confiding in other scores of the participants exposed to illness or to an injury and the use of cannabis

Cannabis	Mean	95% CL Mean		Std Dev	95% CL Std Dev		p-value
Yes	3.8824	3.0924	4.6723	1.5363	1.1442	2.3382	0.0184
No	3.0889	2.7966	3.3812	0.9729	0.8054	1.2289	

The results depicted in Table 4.20 below show the difference between the mean of the variable “confided in others” score of the participants who were victims of violence and the type of substance used. The results show that scores for the participants who consumed alcohol were slightly higher than those who did not at 3.381 CI (2.987-3.775) vs. 2.844 CI (2.471-3.218). This difference was approaching significant at *p*-value = 0.079.

Table 4.20: Confiding scores of the participants exposed to violence and the use of alcohol

Alcohol	Mean	95% CL Mean		Std Dev	95% CL Std Dev			*p*-value
No	2.8444	2.4712	3.2177	1.2424	1.0285	1.5693		0.0791
Yes	3.3810	2.9874	3.7745	0.8646	0.6615	1.2486		

Table 4.21 below indicates that the mean age of onset of stimulant use was 11.2 years. The number of stimulant users were largely different from those who were not consuming stimulants, in terms of trauma and of a major upheaval event. The finding depicts that the mean age of the participants in this regard was 11.200 CI (9.372-13.027) vs. 9.000 CI (7.939-10.061). This difference was statistically significant at p-value = 0.0469.

Table 4.21: Mean age of the participants exposed to major upheaval events and the use of stimulants

Stimulants	Mean	95% CL Mean		Std Dev	95% CL Std Dev		
No	9.0000	7.9395	10.0605	3.8092	3.1923	4.7239	0.0469
Yes	11.2000	9.3729	13.0271	3.2994	2.4155	5.2034	

CHAPTER 5: DISCUSSION

5.1 Aim of the Study

The main aim of this study was to investigate the association between substance use and early childhood trauma. In order to investigate this association, the first part of this discussion section focused on the first objective, which was to describe the demographics, the psychosocial and other clinical variables of this group of individuals undergoing rehabilitation for substance use.

5.1.1 Socio-Demographics

The majority of the participants were males as the Centre (Ithemba Clinic) only admits males and only a few females attended SANCA outpatient facilities during the period of the data collection for this study (February to June 2017). Among the one hundred and nineteen (n=119) participants in the study, one hundred and seventeen (n=117) were male (98.35%) and only two (n=2) (1.68%) were female (See Figure 4.1). The average age of the participants was 27.9 years (standard deviation = 6.9).

A large proportion of participants (88,24%) had a high school level of education, with only 10,08% having tertiary education, and 1.68% having primary education only (see Figure 4.2). An overwhelming majority of 94.07% were single or living alone, while only 5.93% were either married, divorced or cohabiting (see Figure 4.3). A large percentage of participants were unemployed (87.39%), while only 12.6% were employed (see Figure 4.4).

These study population demographics were like other studies of groups of people undergoing substance rehabilitation in South Africa and internationally. Michie et al (2017), in a report on a group of heroin users in the Western Cape Province

undergoing opioid substitution programme, showed similar characteristics pertaining to demographic profiles of study participants.

An epidemiology research study in the United States, reported an increased risk of drug use disorders in certain special communities and demographic groups. They included the following demographic characteristics, male gender, younger age, lower level of education and income, never married or widowed, separated or divorced and the presence of forensic history (Schulden, Lopez, & Compton, 2012).

5.1.2 Gender Differences

Of the participants in this study, only (n=2) 1.68% were female. When adjusting for total trauma score among males only, gender was only approaching statistical significance (p-value=0.0775). The findings of this research study were similar those of other international studies that indicated a relatively small number of women presents themselves to substance-abuse treatment programmes. Lal, Deb & Kedia (2015), reported that there are fewer women than men who are seeking treatment for substance use disorders. In alcohol treatment facilities, they found that the ratio of males to females was estimated to be 2.7:1, while for the same period the ratio of males to females who were seeking treatment for alcohol abuse were found to be 3.3:1.

Women are more likely than men to face a number of barriers to accessing treatment for substance use disorders and they are less likely to seek help. Women are more likely to seek help from primary health care facilities than from specialised treatment facilities, mainly in an effort to avoid the stigma attached to addiction. Other reasons may include economic barriers and having less time to attend regular treatment sessions because of family responsibilities (Green, 2006).

In the past, epidemiologic research indicated that women have low rates of substance use disorders. The use of substances in women is potentially affected by gender differences in biological, psychological, cultural and socioeconomic factors. However, this gap between the two genders seems to be narrowing. For example, research in the early 1980s estimated the male to female ratio of alcohol use disorders to be 5:1. More recent surveys found this ratio to be 3:1, which indicates a significant narrowing of the gap between the two gender differences (Greenfield et al, 2010).

5.1.3 Criminal Aspects

This study showed significantly low rates of criminal behaviour at fifty percent (50%), compared to other studies. Table 4.15 depicts rates of criminal behaviour and other types of criminal offenses (53.12%), which include housebreaking, possession of cannabis and drugs, drinking in public and dealing in or selling drugs. Since data collection depended on retrospective recall with no collateral history, this could have impacted negatively on the reliability of divulging sensitive information such as the participants' criminal history. Participants could have not disclosed this information in fear of being reported to the police, and therefore losing out on the benefits of being in this rehabilitation programme. Lastly, lack of good rapport between the researcher and participants could have also contributed to this low rates. The nature of study design being cross-sectional, was not helpful in building trust between the researcher and participants.

Luntz and Widom (1994) looked at the extent to which having been a victim of child abuse increased the risk of adult diagnosis for antisocial personality disorder. The results showed that exposure to childhood trauma was a significant predictor of the lifetime prevalence of antisocial personality traits and a formal diagnosis of antisocial personality disorder.

Most of the previous studies on this subject reported a high incidence of violent criminal offenses which were commonly associated with substance use, especially of

alcohol and sedatives (Håkansson & Jesionowaska, 2018). However, in this study most reported criminal offenses included malicious damage to property, theft, possession and selling of drugs, which indicates that most offenses may have been committed in an effort to feed the substance habit.

Individuals who had a forensic history showed higher trauma scores than those who did not have a forensic history (see Table 4.13). When controlling for whether a criminal offense was reported to officials, those who had not reported offenses showed higher trauma scores than those who had reported to officials (see Table 4.14). This finding highlights the importance of confiding in others about adverse life events. There was, however, no statistical significance and no previous studies in the literature addressing this finding.

Lastly, it would be expected that people who use more than one type of substance or polysubstance are likely to report more criminal acts and therefore high rates of involvement with the criminal justice system. When analysing for any association between patterns of substance abuse and forensic history of participants, this study could not show any statistical differences between different categories of substance use and forensic history. However, in keeping with the norm, this study showed that participants who used more than one type substance reported more rates of criminal behaviour and charges (two substances of abuse, 28% vs 24%, p-value= 0.726, followed by more than two substances of abuse, 14% vs. 10%, p-value= 0.751 and lastly one substance of abuse, 14% vs. 10%, p-value= 0.628), (figure 4.5). Ahmad and Mazlan, (2014) reported that the prevalence of substance abuse and childhood trauma experiences are higher among incarcerated youth compared to non-incarcerated youth.

5.1.4 Social Support

Most participants in this study admitted to receiving some form of social support from their families. Almost nearly sixty percent of participants (58.47%) who received social

support had lower trauma scores when compared to those who had received social support but still had higher trauma scores, this difference was statistically significant (p-value=0.016). This highlights the importance of social support in buffering the effects of trauma. One of the reasons for this high level of social support could be because people are required to have some form of social support as one of the requirements for admission, which is also important following their discharge from the rehabilitation programme.

Research offers compelling evidence indicating that a positive social support network can mitigate the effects of recent life stress. Social factors have been found to play an important role in facilitating entry to substance treatment facilities, as well as ensuring adherence to treatment post discharge, and the ultimate recovery from substance abuse (Kelly et al, 2010).

The common concern with this social theory has been that it is difficult to isolate which components of social support contribute to the stress-buffering effect (Pennebaker & Susman, 1987). Social support is thought to play a role in reducing the risk for progression of diseases and in promoting recovery from illnesses. The hypothesis is that social relationships facilitates behaviour that has positive influence on health and discourages behaviour that has negative influence on health, such as substance abuse (Cohen, Underwood & Gottlieb, 2000).

5.1.5 Parental Alcohol and Other Substance Abuse

This study showed that parental alcohol and other substance abuse has an effect on the trauma experienced by the participants. The results showed a significant association between parental substance abuse (alcohol and other illicit substances) and trauma experienced by children at p-value = 0.0203. The participants whose parents did not use substances, generally had a low trauma score (60.5% vs. 39.5%). More than half of the participants reported that there was no parental, alcohol or other

substance abuse (Yes: 45.38% and No: 54.62%) and this difference was statistically significant (p-value = 0.0039), table 4.11.

This finding is similar to that of other studies in the literature that looked at the impact of parental substance abuse on children. Christoffersen et al, (2003) in a Danish cohort study of the long-term consequences of parental alcohol abuse, reported the increased hospitalisation of children due to violence. In a systematic review of cohort studies looking at parental drinking and adverse outcomes in children, Rossow et al, *(*2016) established that parental drinking was statistically significant when associated with a child-harming outcome. Children are more likely to be exposed to trauma due to substance related violence or neglect by caregivers. Violence can be experienced between caregivers or can be perpetrated by caregivers against children. Caregivers are likely to spend more time around substances, either making efforts to acquire substances, consuming or recovering from the effects of substances. This may lead to trauma to children in the form of neglect by caregivers.

5.1.6 Sexual Traumatic Experience

In this study there were significantly low rates of participants reporting a history of sexual abuse. As a result, this variable could not be analysed when adjusting for total trauma score. This could have been due to the low rates of female participants (only 2 out of 119) and again, the sensitivity of the subject as was the case with criminal histories. Only 6 (six) (5.1%) of the participants reported a history of traumatic sexual experience. Most of them reported not having shared this information with anyone prior to the interview.

This highlights the sensitivity of opening up about sexual abuse and it could have impacted on the low rates in this study. The ability to disclose about one's childhood traumatic experiences differs between individuals and is affected by a number of factors related to the child. These factors may include the characteristics of the child, the home environment, community as well as societal cultural values and norms.

(Alaggia, 2010). Sciolla et al, 2011 and Ullman et al, (2013) studied the subject of substance use as a coping mechanism among victims of sexual abuse, they reported that the presence of post-traumatic stress disorder symptoms had an effect on the decision to use substances as a coping mechanism by victims of sexual abuse.

5.2 Substance Abuse Patterns among Individuals with Early Childhood Trauma

The second part of this discussion section focuses on the second objective, which was to compare patterns of substance abuse among individuals with early childhood trauma experience with those who had not experienced trauma, and to determine whether any associations existed. It is important to note that as per CTES that was used to collect data regarding traumatic past experiences, all participants did report some form of trauma. Therefore, comparison was made based on the severity of trauma rather than between the presence and absence of trauma (see Appendix IV). As noted, this meant that the primary objective of this study was adjusted into looking at the two groups of people with different trauma scores (low versus high) and to determine if any associations existed.

The results indicated that participants mostly consumed cannabis and opioids in comparison to alcohol and stimulants. There was however no statistical difference between those who had a high trauma level and those who had low trauma scores (Table 4.17). Furthermore, there was no statistical significance between those who had confided in others about their traumatic experiences (high confiding scores: CTES score of 22-42) and those who did not confide in others about their traumatic experiences (low confiding scores: CTES score of 6-21).

Regarding the participants who consumed cannabis, slightly more of them had low confiding scores which is generally a worrying trend. A noteworthy feature of the results was that a converse was noted in the participants who consumed alcohol and stimulants. People (especially youth and male gender) usually find it difficult to seek

help when they are confronted with abuse, it also requires some level of trust for an individual to share his/her problems with the next person. Often people worry about the possibility of the next person disclosing to others about their history of abuse. Health care services for people with history of childhood abuse and substance abuse may not be easily accessible. In most cases people can only get to these facilities through a chain of referral from one health care provider to the next, such as primary health care worker (nurse), referring the person to a social worker who will in turn refer to such a health facility. This difficulty in accessing help with regard to both the effects of trauma and substance abuse can only perpetuate the use of substances and decrease the level of confiding in others. Results from the South African Stress and Health Study (SASH) indicated that despite a high prevalence of substance use disorders, only 27.6% who met the criteria for substance use disorders received treatment (Seedat et al, 2008 as cited by Sorsdahl, Stein & Meyers, 2012).

Although it is not easy to establish a direct causal relationship between early life trauma and substance use disorders later in life, research has provided adequate evidence to link the two. The onset of trauma usually presents before substance use, and people with history of early life trauma are more likely to use alcohol and other substances as a coping mechanism (Brady & Back, 2012). Furthermore, the stress-coping model of addiction shows that in the background of high life stress and low healthy coping resources, substances may be used to improve affect. A Canadian study examining associations between a history of different types (physical, emotional, sexual & neglect) of childhood maltreatment and several substance use disorders including alcohol, heroin, cannabis and stimulants, found increased odds of all 10 substances use disorders among men and women (Afifi et al, 2012).

A comparison between those who confided and those who did not confide in others, did not yield any clinical significance in this study. However, research in the past has proven beyond a reasonable doubt the positive health benefits of confiding in others and the health risk attached to inhibition of the traumatic experience. Pennebaker & Susman (1987) note that although depressing in the short run, confiding in others appears to have positive physical (e.g. immune system) and psychological effects (e.g.

mood) in the long run. They also highlight that confiding in others about recent trauma shows more positive results than when confiding in others about long-standing traumatic experiences. This further indicates that psychological interventions into recent trauma yield more positive results when compared to psychological interventions in long standing past traumatic experiences.

Contrary to this finding, they also concluded that not talking about the traumatic experience and being secretive about it negatively impacts physical and psychological wellbeing, especially if the traumatic experiences and the continued secrecy is cumulative. In this study, the low levels of confiding in others can be due to several reasons such as substance use as a coping mechanism. As per previous research, individuals who experienced early childhood maltreatment are most likely to use poor coping strategies, such as acceptance and avoidance, as ways of coping with challenges in life, rather than confiding in others (Wang et al, 2010).

5.3 Comparison Between Different Categories of Substance Use (use of 1 substance, use of 2 substances and use of > 2 substances) and the Level of Trauma and Confiding (High scores versus Low scores).

As outlined in the results chapter, substance use categories were divided into (use of any one substance), (use of any two substances) and (use of more than two substances). Table 4.10 depicts confiding scores and trauma scores against three categories of substance abuse. Contrary to the usual expectation that high severity of trauma will be associated with polysubstance use, this study did not replicate this finding. Instead, analysis to test the impact of trauma severity across the three categories of substance abuse, did not yield any statistical significance. However, there were marginally significant association between high trauma scores and the use of a secondary substance (any of the two substances), p-value = 0.072. Apart from this, the trauma scores were evenly distributed among the three categories of substance use and analysis did not yield any statistical significance (use of one substance, p-value = 0.311 and use of more than two substances, p-value = 0.226). Most participants in this study reported the use of “Nyaope”, which is a combination of

heroin and cannabis. They also reported that once they started using “Nyaope” they lost interest in other substances that they may have used before, and they also found it more affordable to continue with it in comparison to other substances such as alcohol and stimulants.

A large percentage of participants reported use of at least two substances (54.62%), 24.36% used more than two substances, while only 21.01% reported use of only one substance. This is a serious concern since most individuals with multiple substance use have high rates of comorbidity with other psychiatric disorders and they do not utilise substance abuse treatment (McCabe & West, 2017). People with comorbid substance use disorder and post-traumatic stress disorder who have experienced childhood trauma, were found to present with a more severe clinical profile in relation to severity of trauma and a number substance use characteristic when compared to people with adulthood only trauma histories, (Farrugia et al, 2011).

It has been highlighted on few occasions in this study that findings from literature review indicate that people with a history of childhood trauma develop poor coping skills such avoidance and substance use, rather than seeking help in dealing with the effects of trauma (Wang et al, 2010). It was therefore not surprising to find that participants in this study confided in others to a lesser degree but and instead used substances to cope. Most of the participants had low confiding scores which made it difficult to analyse and see if any significant association existed between the level of confiding and specific patterns of substance use (primary, secondary & poly), table 4.11.

5.4 Other Findings Significant from the Results of this Study

Table 4.6 depicts that the earlier median age of individuals with early childhood trauma experience was ten (10) years for major upheaval events (e.g. parental divorce or separation). The results depict major upheaval as the earliest traumatic exposure that

the participants were exposed to. Most of the participants reported parental discord (including separation and divorce) as the most encountered major upheaval.

In a population-based follow-up study, Palosaari and Aro (1994) looked at the effect of the timing of parental divorce, and whether this increased vulnerability of children to develop depression in young adulthood. The general conclusion from this study was that the younger the age of children when parents divorce, the more vulnerable to depression they will be during young adulthood, compared to those who experienced parental divorce at an older age. This highlights the impact of major upheaval during early childhood, possibly contributing to self-medication by the participants in this study.

5.5 The Correlation on Patterns of Substance Use

Substances abused by the participants in this study were similar to the findings from the latest report by SACENDU (2018a). Cannabis is still the most common substance of abuse across centres, followed by alcohol, heroin and stimulants. There is a rise in the number of patients who report smoking heroin combined with cannabis. The positive correlation between cannabis and opioids can be explained by the finding that most participants reported their preferred mode of heroin use was in combination with cannabis. A number of patients reported that they preferred to smoke a mixture of cannabis and heroin, which is referred to as “nyaope” in South Africa (Dada et al, 2018).

On the other hand, the negative correlation between cannabis, alcohol and stimulants can be explained by economic reasons, as most of the participants in this study were unemployed. They reported that they prefer the use of heroin and cannabis over other substances such as alcohol and stimulants as they were more affordable. Michie et al. (2017), also reported that 54.8% of participants admitted to poly-substance use, with cannabis being the most likely substance to be used, together with heroin at 39.2%.

CHAPTER 6: LIMITATIONS

There are some limitations that should be taken into account when considering the implications of the findings from this study. The study only sampled individuals aged eighteen (18) and older, and the patterns of substance use may differ for childhood and adolescence with childhood trauma exposure. All the participants were exposed to some degree of trauma and they were all substance abusers. If the study could have had a control group, i.e. people without childhood trauma, the outcome of the comparisons may have been very different.

The study was designed to be based on a once-off contact between the principal investigator and the participants during the data collection phase. This posed a serious challenge in terms of building a rapport with the participants. Building a rapport with the participants is important, particularly when sensitive information such as past traumatic experiences is expected to be gathered from individuals.

Finally, the study was based on direct questionnaire and interviews, so careful consideration should be exercised when comparing findings from this study with other sources of data, based on different methods of data collection. The study methodology literature suggests that our estimates may be biased and on the low side, given the self-administered method of data collection regarding sensitive behaviour such as traumatic experiences and drug use. The study is based on recall, which may be unreliable to analyse the impact of ECTE on substance use. Therefore, there is no objective measure of the impact of ECTE on substance use.

CHAPTER 7: CONCLUSION AND THE RECOMMENDATIONS

There is a high frequency of childhood trauma exposure in people seeking help for substance abuse. Most participants reported parental discord and neglect by one or by both parents. Having been raised by one parent or having to deal with parental alcohol and/or other substance use are some of the most common major upheavals that are experienced before the age of seventeen (17 years). People with childhood trauma rarely confide in others about their problems. Instead, they prefer to use substances and engage in problematic social behaviour as a way of coping with their problems.

This study was able to replicate previous research findings under this subject, in relation to the demographic profile of participants. Cannabis, opioids and stimulants were shown to be the most commonly used substances in order of severity. Most participants used more than one substance, in particular cannabis combined with opioids (“nyaope”). The use of two of substance use (use of any two substances) was the most commonly used type of substance followed by polysubstance use (more than two substances), when looking at the number of substances used by each participant. Secondary type of substance use was marginally associated with trauma severity, individuals with high trauma scores mostly used at least two types of substance. The absence of parental alcohol and other type of substance use was significantly associated with low trauma scores. Lastly, this study was able to replicate findings from previous research which supported that social support is important in buffering the effects of trauma. The presence of social support was significantly associated with lower trauma scores.

Careful consideration should be given when treating people for substance use disorder, and mental health care workers should enquire about the patient’s exposure to childhood trauma. Good rapport should be established with these individuals in order to assist them in opening up about their traumatic past. Early psychosocial interventions should be put into place to help them deal with their traumatic past

experiences and to prevent ongoing substance use. Brady & Back, (2012) highlighted the importance of screening for history of trauma and trauma symptoms in people using substances such as alcohol. They further emphasized the significance of applying integrated psychosocial interventions that addresses both trauma symptoms and substance dependence.

Further research, using larger sample sizes of a longitudinal nature, needs to be conducted regarding the association between different substance abuse and childhood traumatic events, as well as the impact of confiding in others as coping mechanisms. Further research should be conducted on a larger scale to help to increase public awareness of child abuse, its negative impact on brain development, and its influence on government's policy on child abuse and early substance use.

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APPENDIX I: INFORMATION DOCUMENT AND CONSENT FORM

Study title: A descriptive analysis of the impact of early childhood trauma exposure on a group of people undergoing rehabilitation.

Greeting:

Good day, my name is Dr Kabo Letseli, registrar in Psychiatry at the University of the Witwatersrand. I am required to conduct research as part of my studies in the Master of Medicine Degree. Below, you will be presented with all the information regarding the details of the study.

I am doing research on possible associations that may exist between some individuals who may have experienced childhood trauma and the use of substances later in their lives. In this research study, we collect information through receiving feedback from participants, analysing such information and learning from the answers to our questions how childhood trauma might impact a group of people undergoing substance rehabilitation. This is research work and does not necessarily incorporate the provision of medical services for treatment of a particular condition.

Invitation to participate in the study:

We are inviting you to take part in this research study. You are allowed to raise any questions or concerns if you are in doubt about any part of this research. Once you have understood all the details and all your questions have been answered to your satisfaction, you can then decide whether you would like to take part in the study. If you decide to take part, you will be required to sign an informed consent certificate. This informed consent certificate will serve as proof that you voluntarily agreed to take part in the study.

Study details:

This study is being done in response to research showing that many children in South Africa may have experienced trauma before reaching the age of seventeen (17 years). By trauma, we refer to a variety of traumatic events which may occur in children and in adolescents. These traumatic events can be both physical and/or psychological, and they can be experienced by oneself or they can be witnessed occurring to others. They may be short-lived (acute trauma) or occur repeatedly over prolonged periods (chronic trauma). Traumatic experiences may involve a serious threat of injury or death, domestic violence, sexual abuse, physical abuse, emotional neglect and other forms of trauma. Due to its occurrence during a critical phase in the development of the brain, it may lead to alterations in certain regions of the brain. Of importance in our study are the alterations in those regions responsible for the control of normal responses to stress. Alterations in the normal response to stress may lead to a wide range of mental illnesses, including substance use disorders such as mainly alcohol and sedative use disorders.

What is involved in the study:

This is a cross-sectional study that will be conducted at Ithemba Clinic and at SANCA Vaal Triangle. Information will be collected during a period of six (6) months in total. Each participant will have a once off interview with the researcher for approximately twenty (20) to thirty (30) minutes, for the purpose of collecting information. You will be presented with psychiatric questionnaires to obtain information such as your demographics, as well as your clinical details. I will also make use of The Childhood Traumatic Events Scale, which is designed to determine your past feelings, your behaviour and your life circumstances.

The risks:

Answering questions about your past experiences might be unpleasant and may sometimes trigger difficult emotions.

The benefits:

If a participant is found to be struggling with past traumatic experiences, such a participant can be referred for assistance. An arrangement has been made with a separate Clinical Psychologist to help with counselling and psychotherapy. There will be no financial or material gains for participating in the study.

Alternative procedures or causes of treatment:

There are no plans for alternative procedures or treatment, and participants are encouraged to complete their programmes at their respective institutions.

The participants will be given pertinent information on the study while involved in the project and after the results are available.

Participation is voluntary:

The decision to participate or not to, is entirely voluntary. A refusal to participate will involve no penalty or loss of benefits to which the participant is otherwise entitled. Any participant may discontinue participation at any time without fear of any adverse consequences whatsoever.

Reimbursements for "out of pocket" expenses:

There is no funding in this research study, and the principal investigator is responsible for all expenses. You will not be paid to participate in this study. There will be no costs to you for any of the procedures or for the tests to participate in this study.

Confidentiality:

Efforts will be made to keep personal information confidential. Each participant will be allocated a unique number which will be linked to your informed consent certificate.

Absolute confidentiality cannot be guaranteed. Personal information may be disclosed if required by law. Data collected will be stored for a minimum of two (2) years after publication or six (6) years in the absence of publication. In the event of data sharing with other researchers for academic purposes, written permission will be sought from the HREC (Medical).

Contact details of the researcher:

If you would like more information, or you have any questions about the study, please contact Dr Letseli on 011 951 8000 or the 24-hour emergency cell number 073 229 9737 or alternatively at email address: kabo.letseli@wits.ac.za.

The contact details of the HREC administrator and the chair- to report any complaints or problems:

Ms Zanele Ndlovu
Telephone: 011 717 1252
zanele.ndlovu@wits.ac.za

CONSENT FORM

Unique No: _____

I have read the foregoing information, or it has been read to me in the language of my choice. It has been explained to me that my participation in the study by means of interviews and questionnaires may carry the risk of bringing back some traumatic memories that are currently unforeseeable.

I acknowledge that my participation may be terminated by the principal investigator without my consent, in the event that I become too distressed to participate. I acknowledge that I was made aware that I may be referred for counselling, should circumstances so require or should I be distressed.

I will not incur any expenses by participating in the study, nor will I gain financially or otherwise. There will be no consequences if I decide to withdraw from the study at any given time. I have had the opportunity to ask questions regarding the study and all my questions have been answered to my satisfaction. I consent voluntarily to be involved as a participant in this research.

Print the name of the Participant _____

Signature of the Participant _____ Date _____

Alternatively,

Print the name of the Witness _____

The thumb print of the Participant _____ Date_____

APPENDIX II: DATA COLLECTION SHEET FOR THE PARTICIPANT(S)

Study number: _____

Age

Sex

Male	Female

Marital Status

Single	Married	Divorced	Separated	Widowed	Cohabiting

Employed

Yes	No

Highest level of education (HLOE)

None	Primary School	High School	Tertiary Education	Special School

Social Support

Yes	No

If yes, what type of social support do you have?

Family	Friends	Emotional	Community

Parental alcohol and other substance abuse

Yes	No

If yes,

Father	Mother	Caregiver

Type of Substance Used

Primary Substance	Secondary Substance	Poly Substance if >2 types of Substances

Forensic History (Have you had any problems with the Law)

Yes	No

If yes, was the offense reported to authorities?

Yes	No

Type of criminal offense committed.

Theft	Physical Assault	Sexual Assault	Other Offenses

APPENDIX III: CHILDHOOD TRAUMATIC EVENTS SCALE

For the following questions, answer each item that is relevant. Be as honest as you can. The question may refer to any event that you may have experienced prior to the age of seventeen (17).

1. Prior to the age of seventeen (17), did you experience the death of a very close friend or a family member? _____
   If yes, how old were you? _____
   If yes, how traumatic was this? (Using a 7-point scale, where 1 = not at all traumatic, 4 = somewhat traumatic, 7 = extremely traumatic) _____
   If yes, how much did you confide in others about this traumatic experience at the time? (1 = not at all, 7 = a great deal) _____
2. Prior to the age of seventeen (17), was there a major upheaval between your parents (such as divorce or a separation? _____
   If yes, how old were you? _____
   If yes how traumatic was this? (7 = extremely traumatic) _____
   If yes, how much did you confide in others? (7 = a great deal) _____
3. Prior to the age of seventeen (17), did you have a traumatic sexual experience (raped, molested, etc.)?_____
   If yes, how old were you? _____
   If yes, how traumatic was this? (7 = extremely traumatic) _____
   If yes, how much did you confide in others? (7 = a great deal) _____
4. Prior to the age of seventeen (17), were you the victim of violence (child abuse, mugged or assaulted - other than sexual)? _____
   If yes, how old were you? _____
   If yes, how traumatic was this? (7 = extremely traumatic) _____
   If yes, how much did you confide in others? (7 = a great deal) _____
5. Prior to the age of seventeen (17), were you ever extremely ill or injured? _____
   If yes, how old were you? _____
   If yes, how traumatic was this? (7 = extremely traumatic) _____
   If yes, how much did you confide in others? (7 = a great deal) _____
6. Prior to the age of seventeen (17), did you experience any other major upheaval that you think may have shaped your life or your personality significantly? _____

If yes, how old were you? _____

If yes what was the event? _____

If yes, how traumatic was this? (7 = extremely traumatic) _____

If yes, how much did you confide in others? (7 = a great deal) _____

Thank you.

APPENDIX IV

Childhood Traumatic Event Scale Score Interpretation

	Low	**High**
Trauma Score	6-21	22-42
Confiding Score	6-21	22-42

APPENDIX V: ITHEMBA CLINIC

Ithemba Clinic is a rehabilitation centre located in Krugersdorp. It is managed by a non-governmental organisation and the clinic is funded by the department of social development. They offer a rehabilitation programme for alcohol and drug dependency. The programme runs for six (6) weeks and they admit up to forty (40) patients every six (6) weeks. Currently, the centre only admits males.

All their patients are referred from different social workers in the Gauteng region, particularly the West Rand. They have their own multi-disciplinary teams comprising general practitioners, counsellors, social workers and occupational therapists. Their programme includes inpatient medical detoxification, followed by social support.

Patients must be eighteen (18) years or older and they should have had problems with alcohol or drugs in order to be admitted.

APPENDIX VI: SOUTH AFRICAN NATIONAL COUNCIL ON ALCOHOLISM AND DRUG DEPENDENCE (SANCA)

SANCA is an organisation in the field of prevention and treatment of chemical dependency in South Africa.

SANCA operates eleven (11) inpatient treatment centres for adults and four (4) inpatient treatment centres for adolescents in the country. All thirty (30) local SANCA centres render outpatient treatment programmes. The average duration of an inpatient programme for adults is between twenty-one (21) and twenty-eight (28) days. Outpatient treatment programmes range from early intervention to comprehensive outpatient treatment programmes lasting up to sixteen (16) weeks. All the various centres have their own multidisciplinary teams.

Referral sources: family or friends and self-referrals, may admit patients from age seven (7) to thirty-five (35). With inpatient or outpatient treatment they also offer aftercare which ranges from psychotherapy to extensive utilisation of self-help groups.

Funding originates mainly from the National Department of Social Development and the National Lottery Distribution Trust Fund.

APPENDIX VII: DISTRESS PLAN/LETTER FROM CLINICAL PSYCHOLOGIST

GAUTENG PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

CHIEF EXECUTIVE OFFICER
Kopanong Hospital
Private Bag x031
Vereeniging
1933

Enq:Ward 09 (Psychiatry ward)
Tel: + 27 16 428 7055
Fax: + 27 16 428 1148
Date: 18 March 2016

Clinical Psychologist Letter of Agreement

My name is Dr Nzuzo Joseph Lloyd Mazibuko, M.Soc.Sc.; PhD, Registered Senior Clinical Psychologist working at Kopanong Hospital.

Contact details: (016) 428 7055

Email address: nzuzo.mazibuko@gmail.com

I have been in communication with Dr Kabo Letseli, who is the principal researcher in this study. He has explained to me the nature and details of his study.

He is aware of the likelihood of patients being distressed as a result of his interview regarding their history of trauma.

I, therefore, agree to assist in my capacity as a psychologist should he decide that patient(s) require Psychologist attention/referral to deal with their distress.

Signature: _____

Initials and surname: _Dr N.J.L. Mazibuko

Qualifications: M.Soc.Sc.; PhD.

HPCSA NUMBER: PS 0115746

Date: 18/03/2016

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APPENDIX VIII: ETHICS CLEARANCE CERTIFICATE

Human Research Ethics Committee (Medical)

Research Office Secretariat: Senate House Room SH 10004, 10th floor.
Medical School Secretariat: Phillip Tobias Building, 2nd Floor
Private Bag 3, Wits 2050, www.wits.ac.za

Tel +27 (0)11-717-1252
Tel +27 (0)11-717-2700
Fax +27 (0)11-717-1265

12 September 2016

To Whom It May Concern

SUBJECT: **CONFIRMATION OF STUDY APPROVAL**
Protocol Ref No: M160809
Protocol Title: A Descriptive Analysis of the Impact of Early Childhood Trauma in a Group of People Undergoing Rehabilitation for Substance Use
Principal Investigator: Dr Kabo Letseli
Department: Psychiatry

This letter serves to confirm that the Human Research Ethics Committee (Medical) has approved the above mentioned study. In order for a clearance certificate to be issued, the researcher is required to submit written approval to conduct the study in your district/institution.

The researcher has been informed that this letter is not a clearance certificate and that the study cannot commence without your approval and receipt of a clearance certificate from the HREC (Medical).

Should you have any queries, you may contact me at tel: 011 717 1252/1234/2700/2656 or by email zanele.ndlovu@wits.ac.za;HREC-Medical.ResearchOffice@wits.ac.za

Yours Faithfully,

.....
Ms Zanele Ndlovu
Administrative Officer
Human Research Ethics Committee (Medical)

UNIVERSITY OF THE WITWATERSRAND
OFFICE OF THE DEPUTY VICE CHANCELLOR RESEARCH
12 SEP 2016
RESEARCH OFFICE
HREC (Medical)
JOHANNESBURG

APPENDIX IX: TURN-IT-IN (PLAGIARISM) REPORT

TURN-IT-IN (PLAGIARISM)REPORT – ACKNOWLEDGED BY SUPERVISOR

00658018:Dr_Letseli_Plagiarism_Checker_14.5.2020.docx

ORIGINALITY REPORT

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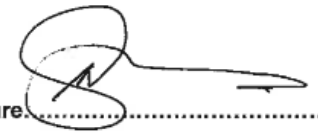

Supervisor Signature.....

Date.....01.06.2020.....