RELATIONSHIP BETWEEN POST TRAUMATIC STRESS DISORDER AND RECOVERY PERFORMANCE AMONG CLIENTS WITH SUBSTANCE USE DISORDERS IN SELECTED REHABILITATION CENTRES IN NAIROBI COUNTY.

18S03DMCP007

MARGARET M. NJOROGE

A thesis submitted in partial fulfillment of the requirements for the award of the degree of master Art in counselling psychology, school of humanities and social sciences, department of counselling psychology of Africa Nazarene University.

AFRICA NAZARENE UNIVERSITY

NAIROBI, KENYA

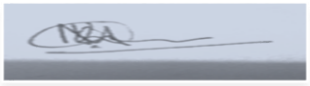
JUNE 2024

DECLARATION

I declare that this research thesis is my original work, and it has not been presented in any other university for academic purposes.

Student's Name: Margaret M. Njoroge **Date:** 23 June 2024

18S03MCP007



Signature

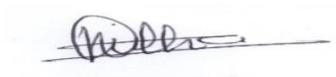
EXAMINER'S SIGNATURES

This thesis was conducted under our supervision and is submitted with our approval as the university supervisors.

Supervisor's Name: Dr. Susan W. Gitau **Date:** 23 June 2024

University supervisor signature

Supervisor's Name: Dr. Leonida Makila **Date:** 23 June 2024



University supervisor's signature

DEDICATION

This dissertation is dedicated to my family who has given me inimitable support throughout the journey. I also dedicate it to individuals struggling with post-traumatic stress disorder (PTSD) and addiction.

ACKNOWLEDGMENT

I am indebted to God for His grace and favor without which I wouldn't have accomplished this work. Profound gratitude to my supervisors, Dr. Susan W. Gitau and Dr. L. Makila for their academic guidance throughout the process of conceptualizing the study for the final report. I am thankful for the vital insights they inculcated in me in the entire process.

My appreciation goes to all respondents who agreed to participate in this study together with NACOSTI for granting me a research permit to aid me in collecting data.

I am grateful to Richard Kithome and June Hope for proofreading my research report and helping to format my work.

To Samuel Mbugua, thank you for your guidance on entering data in SPSS, analysis and interpretation.

ABSTRACT

The purpose of the study was to assess the relationship between post-traumatic stress disorder and recovery performance among clients with substance use disorders in selected rehabilitation centers in Nairobi County. The objectives of the study were: to assess the prevalence of PTSD, establish the rate of relapse to substance use among clients with a history of PTSD, to determine the relationship between perception of safety and sobriety, and possible intervention strategies for the treatment of clients with substance use disorder who have experienced PTSD from the selected rehabilitation centers in Nairobi County. The study was anchored on the cognitive behavioral theory and the behavioral theory. The study employed a correlational research design. The target population was 100,000 from where a sample of 200 was calculated using the Krejcie & Morgan formula. In-patient clients were sampled using random sampling techniques and data was collected using questionnaires and analyzed using cross-tabulation and displayed through tables, charts and bar charts. The prevalence of PTSD was measured using the International Trauma Questionnaire. The findings of the study indicated that there was a high prevalence of PTSD (99.5%) among individuals with substance use disorders. Emotional trauma was the most prevalent, followed by car accidents, violence, and sexual trauma. The demographic insights highlighted that males aged 20-29 and 30-39 were particularly affected. The study also established that there was a high relapse rate of 98% among the respondents. The factors contributing to relapse included stress, negative emotions, social pressure, and poor coping strategies. The study also established a strong link between perceived insecurity or discomfort in living or work environments and substance use disorder recovery. Almost all respondents (99.5%) reported a high level of perceived insecurity, and 95.4% perceived their environment as unsafe. The findings indicated that feeling safe was closely tied to maintaining sobriety for 95.4% of respondents. The entire surveyed population (100%) was actively seeking help while (88%) were utilizing detoxification. Further, 79% of respondents suggested the effectiveness of a multifaceted approach, endorsing the use of detoxification, medication, and support groups while 97% preferred treatment programs that addressed substance use disorder and PTSD simultaneously, emphasizing the importance of a coordinated approach in addressing these interconnected issues. The study beneficiaries include healthcare providers like clinicians and counselors, rehabilitation center managers, addiction and recovery curriculum developers and addiction policymakers who will gain insight into effective treatment strategies tailored to clients with co-occurring PTSD and SUD. The study suggested further research with gender specificity, peer-led trauma and addiction recovery support, and a similar longitudinal study with various behavioral, medical and or other recovery interventions to test for effectiveness.

Table of Contents

DEFINITION AND OPERATIONALIZATION OF TERMS

For the purpose of this study the following terms were operationally defined as follows:

Client: an individual or group that uses the professional services or help (Aldridge, 2014). In this study, this refers to the respondents in the rehabilitation centers

PTSD (post-traumatic stress disorder): is a psychiatric illness that results from encountering traumatic experiences directly or indirectly through accident, sexual assault or demise (Edition, Mason, Rowlands, Edition,& Ford, 2013).

Prevalence: refers to the total number of individuals in a population with a health condition over a given period, usually expressed as a percentage of the population (Indravan, 2013).

Recovery Performance: a return to a standard state of health, mentally, physically emotionally, healthy relationships, able to perform daily tasks, etc. while maintaining sobriety and feeling safe in one's environment (WHO, 2023).

Rehabilitation: care that can help one get back, keep, or improve abilities that a person needs for daily life functioning. These abilities may be physical, mental, and/or cognitive (thinking and learning) (WHO, 2023).

Sobriety: it refers to the physiological and psychological state of being unaffected by the presence of an intoxicant. For people who are in recovery from substance or alcohol use, the definition of sobriety is similar to the definition of abstinence. It means living a life free of drug or alcohol use (National Association for Children of Addiction, 2007).

Substance Use Disorder (substance use disorder**):** is characterized by an individual having a strong urge to use, consuming huge amounts of the substance, impaired control while using, ongoing use despite problems caused, not meeting responsibilities, needing more and more amounts and developing adverse effects on reducing use. A diagnosis occurs when two or more symptoms occur within the same 12-month period (APA, 2013).

Complex Trauma: It is a result of exposure to varied and multiple-layered traumatic events or experiences. The events are generally within the context of an interpersonal (between people) relationship. It may give the person a feeling of being trapped. Complex trauma often has a severe impact on the person's mind. It may be seen in individuals who have been victims of childhood abuse, neglect, family disputes, and other repetitive situations, such as civil unrest. It affects the person's overall health, relationships, and daily functioning (Perrotta, 2020).

Trauma: It refers to the emotional response an individual makes towards a dreadful event or situation that he or she encountered. This could be an accident, physical assault, rape and emotional abuse etc. (Njenga, 2008).

Acute trauma: It mainly results from a single distressing event, such as an accident, rape, assault, or natural disaster. The event is extreme enough to threaten the person's emotional or physical security. The event creates a lasting impression on the person's mind Perrotta, 2020).

Chronic trauma: It happens when a person is exposed to multiple, long-term, and/or prolonged distressing, traumatic events over an extended period. It may result from a long-term serious illness, sexual abuse, and exposure to extreme situations. Several events of acute trauma as well as untreated trauma may progress into chronic trauma referred to Post-traumatic stress disorder, (Perrotta, 2020).

ABBREVIATIONS

ADA: Anti-Drugs Agency

CPTSD: Complex Post Traumatic Stress Disorder

EU: European Union

ID: Identification Card

ITQ: International Trauma Questionnaire

KNBS: Kenya National Bureau of Statistics

MOH: Ministry of Health

NACADA: National Authority for the Campaign Against Alcohol and Drug Abuse

NACOSTI: National Council for Science Technology and Innovation (NACOSTI)

PTSD: Post Traumatic Stress Disorder

REHAB: Rehabilitation Centre

SUD: Substance Use Disorder

WHO: World Health Organization

LIST OF TABLES

LIST OF FIGURES

CHAPTER ONE

1. 1 Introduction

This chapter addresses the background of the study, statement of the problem, objectives of the study, research questions, purpose of the study, the significance of the study, scope, limitation and delimitation of the study, conceptual framework, theoretical framework and operationalization of key terms.

1.2 Background of the Study

Post traumatic stress disorder is a psychiatric illness that results from encountering traumatic experiences directly or indirectly through accident, sexual assault or demise (Edition, Mason, Rowlands, Edition,& Ford, 2013). Such distressing experiences or events may encompass the loss of a loved one, sexual assault, ongoing physical violence, continuous emotional abuse, war, and acts of terrorism, among others. In the contemporary world, a considerable number of individuals have encountered traumatic experiences or events in their lives, as noted by Amaro, Chernof, Arevalo, and Gatz (2007).

Globally, the World Health Organization has recognized PTSD as one of the prevailing challenges humanity faces in the 21st century (WHO, 2004). Studies conducted by WHO in 2004 indicated that individuals struggling with substance abuse often experience health issues that impair their daily functioning and disrupt their personal lives, hampering their occupational performance. The global report released in Vienna, Austria, revealed that women suffering from post-traumatic stress disorders are more susceptible to engaging in substance use and exhibiting erratic behaviors (UNODC, 2018). In Switzerland, individuals encountering factors such as poverty, unemployment, grief,

divorce, relocation, and substance abuse are at a heightened risk of developing mental health disorders (WHO, 2017). In Hong Kong, there was an estimated 65% increase in the use of newer drugs for post-traumatic stress disorder treatment (WHO, 2017).

In Africa, numerous studies have pointed to the pervasive challenges of mental health disorders affecting the entire population. For example, a study conducted by Strong Minds in Uganda in 2016 revealed that over 1,800 females were diagnosed with post-traumatic stress disorder by 2015. The same study predicted that, by 2025, approximately two million women with post-traumatic stress disorder would have received treatment. Studies across sub-Saharan Africa, particularly in Ghana and Côte d'Ivoire, have reported a high prevalence of post-traumatic stress disorder, ranging from 27% to 33% (Osok et al., 2018). A study in South Sudan conducted by Lien et al. in 2016 found a link between mental health issues and alcohol misuse, especially in regions affected by war and poverty. Exposure to war and involuntary displacement was shown to increase the risk of psychological distress, including post-traumatic stress disorder, which exacerbated the harmful effects of alcohol abuse.

In Nigeria, a study by Obadeji et al. in 2020 focused on the association between psychological distress and substance use among adolescents in a Nigerian capital town. The study revealed that over a quarter of the participants reported significant psychological distress. Those with a history of substance use were more than three times more likely to experience significant psychological distress, and those currently using substances were about twice as likely to experience psychological distress. Family background, parental marital status, and the absence of parental care were also identified as factors increasing

the risk of psychological distress. Adolescents from broken homes, polygamous families, and those not living with their parents were at a higher risk of experiencing psychological distress.

In Kenya, the Ministry of Health, supported by economic surveys conducted by the Kenya National Bureau of Statistics (KNBS) and the INFOTRACK research firm, has reported high levels of traumatic experiences among Kenyan citizens. These experiences include insecurity, house evictions, job losses, and domestic violence, exacerbated by the economic challenges brought about by the COVID-19 pandemic (MOH, 2020). The Ministry of Health's drug and substance abuse report from 2015 highlights the causal relationship between substance abuse, particularly alcohol, and various mental and behavioral disorders, as noted by Kimbui et al. in 2018. NACADA's 2007 studies further corroborate these findings, emphasizing how individuals turn to alcohol, nicotine, and other substances to temporarily escape their problems, thereby intensifying their traumatic experiences (Omollo, 2015). As a coping mechanism, those suffering from the consequences of traumatic events and experiences often increase their alcohol and substance consumption, spiraling further into self-destructive patterns. Chronic drug abuse ultimately leads to addiction, an ailment without a known cure (Shauri & Omondi, 2004). Meanwhile, Kimbui, Kuria, Yator, and Kumar (2018) underscore the common association between post-traumatic stress disorder and other mental disorders with substance use. Addressing this challenge effectively is paramount to prevent the abandonment of individuals who could potentially lead productive lives. Consequently, the present study seeks to investigate the connection between PTSD and recovery performance among clients dealing with substance use disorders.

1.3 Problem Statement

The existence of rehabilitation centers is commonly predicated on the goal of facilitating complete recovery for their clients, defined as the comprehensive resolution of the emotional, social, physical, and psychological adverse consequences stemming from post-traumatic stress disorders (Herman, 1992; Gene, 2009). Nevertheless, certain clients face considerable challenges in achieving full recovery from post-traumatic stress disorder and are susceptible to relapses, even after undergoing rehabilitation programs (Jester et al., 2015). Co-occurring diagnoses of post-traumatic stress disorder and substance use disorders (SUD) are frequently encountered, adding complexity to the diagnostic accuracy of mental health specialists and exacerbating the progression of these conditions, symptomatology, and impairing recovery outcomes (Ouimette, Brown, & Najavits, 1998; Darghouth, Nakash, Miller, & Alegría, 2012).

To improve the effectiveness of the rehabilitation process and enhance recovery outcomes, it is essential to understand the relationship between post-traumatic stress disorders (PTSD) and recovery performance among clients with SUD (Dore, Mills, Murray, Teesson, & Farrugia, 2012). However, there is a shortage of epidemiological data available for assessing co-morbid disorders within the context of SUD among patients in Kenyan rehabilitation centers. The present study intends to fill in this knowledge gap by either confirming or digressing from the above findings that were conducted in developed countries.

1.4 Purpose of the study

The purpose of this study was to assess the relationship between post-traumatic stress disorders and recovery performance among clients with substance use disorders in selected rehabilitation centers in Nairobi County.

1.5 Objectives of the study

i). To assess the prevalence of PTSD among clients with substance use disorder in selected rehabilitation centers in Nairobi County.

ii). To establish the rate of relapse to substance use among clients with a history of PTSD in selected rehabilitation centers in Nairobi County.

iii). To determine the relationship between perception of safety and sobriety among clients with substance use disorder who have experienced PTSD in selected rehabilitation centers in Nairobi County.

iv). To explore possible intervention strategies for the treatment of clients with substance use disorder who have experienced PTSD in selected rehabilitation centers in Nairobi County.

1.6 Research questions

i). What is the prevalence of PTSD among clients with substance use disorder in selected rehabilitation centers in Nairobi County?

ii). What is the rate of relapse to substance use among clients with a history of PTSD in selected rehabilitation centers in Nairobi County?

iii). What is the relationship between perception of safety and sobriety among clients with substance use disorder who have experienced PTSD in selected rehabilitation centers in Nairobi County?

iv). What possible intervention strategies could be applied to the treatment of clients with substance use disorder who have experienced PTSD in selected rehabilitation centers in Nairobi County?

1.7 Research hypothesis

i). There is a relationship between PTSD and substance use.

ii). There is a relationship between PTSD and relapse to substance use.

iii). There is a relationship between the perception of safety and sobriety among clients with substance use disorder who have experienced PTSD.

1.8 Significance of the Study

The study envisaged that a number of entities would benefit from the study. Those who were likely to benefit from the outcome of the present study included the following:

Healthcare Providers: Healthcare providers, including clinicians and counselors, can benefit from the study's findings by gaining insights into effective treatment strategies tailored to clients with co-occurring PTSD and SUD. A better understanding of the prevalence of PTSD among clients with SUD can aid healthcare providers in more accurate diagnosis and early intervention. The study results can guide healthcare providers in making informed decisions about resource allocation, staffing, and training needs within rehabilitation centers.

Policymakers: can use the study's findings to inform the development of policies and guidelines aimed at improving the quality and accessibility of treatment for individuals with co-occurring PTSD and SUD. Knowledge of the prevalence and impact of PTSD among clients with SUD can assist policymakers in allocating resources effectively to address the specific needs of this population within the healthcare system. Policymakers may use the study findings to advocate for increased support and funding for rehabilitation programs that incorporate PTSD - informed care approaches.

Rehabilitation Centers: can benefit from the study by implementing tailored intervention strategies based on the identified relationship between PTSD and recovery performance. Insights from the study can inform staff training programs within rehabilitation centers, ensuring that healthcare professionals are equipped to provide effective care for clients with co-occurring PTSD and SUD. By implementing evidence-based practices informed by the study findings, rehabilitation centers can potentially improve patient outcomes and satisfaction with treatment.

Individuals Affected by PTSD and SUD: Individuals with co-occurring PTSD and SUD may benefit from improved access to specialized treatment and support services informed by the study's findings. Tailored interventions based on the study results may lead to improved treatment effectiveness and better outcomes for individuals undergoing rehabilitation for both PTSD and SUD. The study may contribute to increased awareness and understanding of the complex

interplay between PTSD and SUD, reducing stigma and promoting empathy within the community.

By addressing the specific needs and challenges faced by each stakeholder group, the study has the potential to positively impact the overall care and outcomes for individuals with co-occurring PTSD and SUD in Nairobi County.

1.9 Scope and Delimitation of the study

The scope of the study was to establish the relationship between PTSD and recovery performance among clients with substance use disorders in selected rehabilitation centers in Nairobi County. The study investigated clients from rehabilitation centers who were experiencing both PTSD and SUD. The study considered both genders and those aged 18 years and above. Those 18 years and above were chosen due to practicality as they were to give informed consent and participate in the study. The study was delimited to Nairobi County, the Kenyan Capital. The reason for the choice of Nairobi was because the city has numerous rehabilitation centers serving people with both PTSD and SUD cases.

1.10 Limitation of the study

Among the expected limitations of this study. The researcher anticipated challenges in getting information on PTSD because of fear, stigma, social profiling, and self-disclosure. To mitigate this, the researcher used questionnaires to collect data and the research assistants were competent professionals for crisis management. Questionnaires engender confidentiality and anonymity in the collection of data which helps to eliminate prejudice and stigma on respondents.

1.11 Assumptions of the study

The study assumed the following:

i. There was sufficient access to rehabilitation centers in Nairobi County for clients with substance use disorder to participate in the study.
ii. That clients were aware of their own PTSD symptoms and willing to disclose them during the assessment.
iii. The clients accurately reported instances of substance use and relapse during the study period.
iv. That clients' perceptions of safety and sobriety were accurately reported and reflected their actual experiences.

1.12 Theoretical Framework

This research study investigated the relationship between post-traumatic stress disorders and recovery performance among clients with substance use disorders, and was anchored on the following theories.

a) Cognitive Behavioral Theory

This research aimed to explore the relationship between PTSD and recovery performance in individuals with substance use disorders. The study is grounded on Cognitive Behavioral Therapy (CBT) which is premised on the notion that people's perceptions of the world shape their experienced reality. Cognitive therapy emerged as a reaction to the limited scope of early behavioral psychology, which overlooked the significance of internal mental processes in influencing behavior. Cognitive therapy was

primarily introduced through the work of Albert Ellis and Aaron Beck, who pioneered cognitive restructuring therapies in the 1950s and 1960s. Notably, Beck is credited as the pioneer of cognitive therapy, particularly in his research on depression in the early 1960s (Leahy, 1996).

Contemporary cognitive therapy is founded on the principle that disruptions in behavior, emotions, and thoughts can be transformed by modifying cognitive processes (Hollen & Beck, 1986). In simple terms, cognitive therapy is based on the concept that one's thoughts and attitudes, rather than external events, influence their emotional states (Burns, 1989). Emotions are triggered by the interpretation and appraisal of events, rather than the events themselves (Beck, 1976). Cognitive psychology posits a dynamic interaction between thought, emotion, and action. As Freeman and colleagues (1990) point out, the cognitive model suggests that thoughts not only result in feelings and actions but that emotions and actions can also influence cognitive processes.

Cognitive restructuring is a common thread across various cognitive therapy approaches. These approaches include restructuring cognitive distortions associated with negative thinking, adjusting maladaptive assumptions and automatic thoughts, self-instructional training, problem-solving, mental coping skills, relaxation therapy, modeling strategies, and specific cognitive techniques such as thought stopping, thought replacement, thought conditioning, and thought countering.

The Cognitive Behavioral Theory (CBT) is highly relevant to understanding the relationship between post-traumatic stress disorder (PTSD) and recovery performance among clients with substance use disorders (SUD). Here's how CBT informs the study and

its strengths and weaknesses. CBT posits those maladaptive behaviors, including substance abuse, stem from distorted thinking patterns and beliefs. In the study, CBT can help understand how individuals with PTSD may develop SUD as a way to cope with traumatic experiences. CBT emphasizes identifying triggers for problematic behaviors and developing coping strategies to address them. In the context of the study, CBT can inform how PTSD symptoms act as triggers for substance use and how clients can be taught adaptive coping skills to manage both PTSD and SUD symptoms.

CBT focuses on challenging and restructuring cognitive distortions. For individuals with PTSD and SUD, this could involve addressing negative beliefs about oneself, others, and the world, which may contribute to both disorders. CBT emphasizes behavioral change through goal setting, problem-solving, and skills training. In the study, CBT techniques can be used to enhance recovery performance by promoting adherence to treatment plans, reducing substance use, and improving overall functioning.

Strengths of CBT:

CBT has a substantial body of empirical evidence supporting its efficacy in treating various psychological disorders, including PTSD and SUD. CBT focuses on the present and future, making it practical for addressing current symptoms and promoting recovery. CBT provides a structured framework for treatment, with clear goals and techniques that can be tailored to individual needs. CBT emphasizes a collaborative relationship between the therapist and client, empowering clients to take an active role in their recovery (Human, 2024).

Weaknesses of CBT:

While CBT is effective for many individuals, it may not work for everyone, particularly those with severe or complex psychological issues. Some critics argue that CBT focuses primarily on symptom reduction rather than addressing underlying issues or systemic factors contributing to disorders. CBT requires active participation from clients, which may be challenging for individuals with low motivation or cognitive impairments. Critics suggest that CBT may not adequately address the emotional aspects of PTSD and addiction, focusing more on cognitive restructuring and behavioral change ((Human, 2024)

In summary, CBT provides a valuable framework for understanding and addressing the relationship between PTSD and SUD in the context of the study. Its strengths lie in its empirical support, structured approach, and focus on collaborative treatment, while weaknesses include its potential limitations in addressing underlying issues and its reliance on active client participation.

b) Behavioral theory

Behavioral theory is centered on the idea that behavior is acquired through learning. According to Gavetti (2012) and Van Ees et al. (2009), this theory posits that the environment plays a crucial role in shaping how individuals think and behave. Burke et al. (2009) assert that the behavioral approach enhances individuals' life skills, empowering them to effectively address various life challenges. When applied in rehabilitation centers, this approach equips personnel to competently handle the PTSD associated with substance abuse disorders, which could otherwise have a detrimental impact on patients' lives (Argote & Greve, 2007).

The knowledge gained from behavioral theory helps rehabilitation center personnel understand the importance of counseling their patients to prepare them for sustained well-being. Patients with substance abuse disorders acquire coping strategies to deal with the PTSD they experience. Initially, the focus of this theory was on changing behaviors by managing anxiety and reinforcing desirable behaviors through contingencies. However, contemporary behavior therapy now emphasizes current determinants of behavior, guided by specific treatment objectives (Kazdin, 1978). It involves modifying the environment and promoting social interaction to enhance self-control (Franks & Wilson, 1975), along with a focus on client responsibility and the therapeutic relationship (Franks & Barbrack, 1983).

Common intervention approaches in behavioral therapy include coping and social skills training, contingency management, modeling, anxiety reduction, and relaxation techniques, self-management methods, and behavioral rehearsal (Glass & Arnkoff, 1992). This approach is valuable in helping individuals develop the skills they need to navigate life's challenges and recover from substance abuse disorders.

In examining the relationship between post traumatic stress disorder (PTSD) and recovery performance among clients with substance use disorders in rehabilitation centers, behavioral theory can offer both strengths and weaknesses.

Strengths of Behavioral Therapy:

Behavioral theory focuses on observable behaviors, which makes it suitable for studying recovery performance, such as attendance in therapy sessions, adherence to

treatment plans, and substance use reduction or cessation. It offers a range of behavior modification techniques that can be applied in rehabilitation settings. Techniques like reinforcement, shaping, and modeling can be utilized to encourage positive behaviors and discourage substance use. Empirical Support: Behavioral interventions often have empirical support, meaning there is evidence from research studies demonstrating their effectiveness in promoting behavior change. This empirical foundation provides confidence in the application of behavioral principles in treatment settings. Behavioral interventions are often practical and easy to implement in real-world settings. This can be particularly beneficial in rehabilitation centers where resources may be limited, and interventions need to be feasible and sustainable (Goldfried & Castonguay, 1993).

Weaknesses of Behavioral Therapy:

Behavioral theory tends to focus solely on observable behaviors and may overlook underlying psychological processes or emotional experiences that contribute to substance use disorders and PTSD. This narrow focus may limit the understanding of the complex interplay between PTSD symptoms, substance use, and recovery. Behavioral theory may not adequately address individual differences in clients' experiences of PTSD and substance use disorders. Factors such as cultural background, personality traits, and past experiences may influence behavior but may not be fully accounted for in behavioral interventions (Goldfried & Castonguay, 1993).

Behavioral interventions often produce relatively quick results, but they may not always lead to long-term behavior change or address underlying issues contributing to PTSD and substance use disorders. Long-term recovery may require interventions that go

beyond behavior modification alone. Potential for Relapse: While behavioral interventions can effectively target specific behaviors, they may not always prevent relapse or address the underlying causes of substance use disorders and PTSD. Without addressing these underlying issues, clients may be at risk of returning to substance use following treatment (Goldfried & Castonguay, 1993).

In conclusion, while behavioral theory offers valuable insights and practical strategies for addressing behaviors associated with PTSD and substance use disorders in rehabilitation settings, it should be integrated with other theoretical approaches to provide a comprehensive understanding of recovery processes and address the complex needs of clients.

1.13 Conceptual Frame Work

Independent variable **dependent variable**

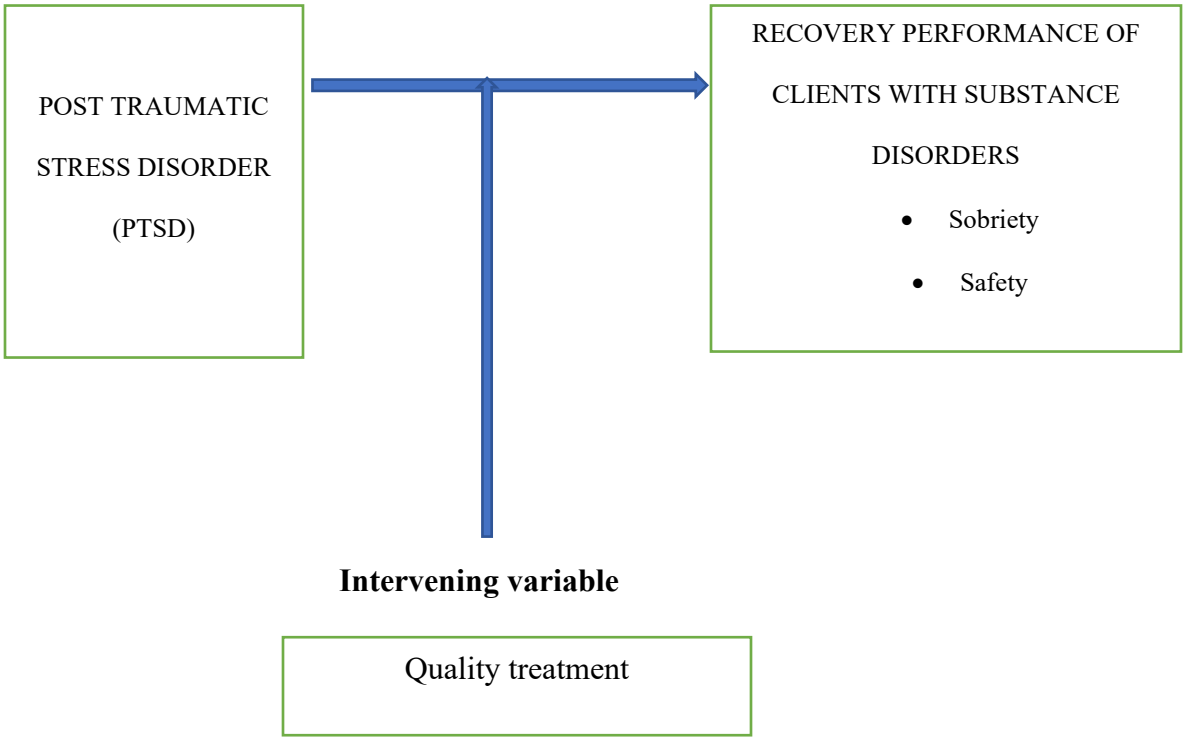


Figure 1: Conceptual Framework

The conceptual frameworks illustrate how post-traumatic stress disorders can be a risk factor for the recovery performance of clients with substance use disorder. The independent variables (in this case PTSD) can manipulate, cause or influence the dependent variable, in this case it may meaningfully bear a major impact on the recovery performance of clients with substance use disorder which is our dependent variable under certain circumstances. The intervening variables such as lack of quality treatment can influence the recovery performance of clients with substance use disorders. Intervening variables can strengthen, reduce, negate or change the correlation between the independent variable and the dependent variable. These variables can also affect the direction of this relationship. May also become an inducer, precipitating long-term factors of drug abuse and the development of PTSD. Among the indicators of recovery performance includes but are not

limited to; sobriety and safety (mental stability to be able to execute a certain task, emotional intelligence which enhances emotional regulation, state of individual composure, social interactions and holding eloquent conversations as well as to initiate and keep healthy relationships).

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter contains a review of the literature on the study on the relationship between PTSD and the recovery performance of clients with substance use disorders in selected rehabilitation centers in Nairobi County. It also includes PTSD and the unending

cycle of substance abuse and reviews of related studies to establish the existing literature gap.

2.2 Post Traumatic Stress Disorder (PTSD) and the Endless Cycle of Substance Abuse

According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-5, 2013), substance use disorder (SUD) is defined as a recurring pattern of substance use that leads to significant impairment in daily functioning, which can be overwhelming and traumatic. Individuals grappling with substance use disorder often find themselves more vulnerable to traumatic events, thus perpetuating a continuous cycle of PTSD and an increased risk of substance abuse (Cohen & Hien, 2006). As Arthur Golden (2019) aptly expressed, "When a grit is let down into a pool, the water continues quivering even after the stone has sunk to the bottom." This metaphor underscores the notion that if PTSD remains unaddressed, it can perpetuate an ongoing cycle of traumatic experiences and a heightened risk of developing substance use disorder. Frequently, individuals seek to escape these distressing feelings associated with PTSD by turning to alcohol and other substances of abuse.

In terms of the recovery performance of individuals with substance use disorders, PTSD often poses a significant challenge, and in many instances, it serves as a primary underlying cause (Khoury, 2010). Individuals who have experienced developmental trauma are more likely to exhibit maladaptive behaviors towards themselves. These behaviors can manifest in various ways, such as denial, ultimately leading to detrimental consequences for the individual's future actions. Likewise, Grossman, Spinazzola, Zucker, and Hopper (2017) contend that when a child has endured substantial instances of physical

and psychological abuse during childhood, they are prone to harboring emotional turmoil, including immediate anxiety and dysphonia, resulting in heightened levels of despair and turmoil. The author cautions that if this condition remains unaddressed before the individual reaches adulthood, it may play a pivotal role in initiating or exacerbating drug and substance abuse.

Furthermore, Ferentz (2015) observed that an individual's inclination toward self-destructive behavior and sabotage often serves as an indicator of deep-seated issues, frequently stemming from Post traumatic stress disorders. Such experiences significantly impede an individual's ability to regulate their impulses, manage emotions, nurture healthy interpersonal relationships, and develop a stable sense of identity. Kolk (2015) argued that when a child undergoes psychological trauma during their formative years, it profoundly influences their later stages of growth and development. Such a child is at a heightened risk of persisting in dis-regulation and developing dependence on drugs and substances. The collective evidence underscores a robust correlation between Post traumatic stress disorder and recovery performance among clients with substance use disorders, as well as the development of drug and alcohol abuse tendencies.

2.3 Effects of Post traumatic stress disorder (PTSD), Symptoms, and Interventions

The repercussions of Post traumatic stress disorder, as described by Waller et al. (2016), can be profoundly distressing. PTSD has the potential to disrupt one's routines and perspectives on life, leading to a reliance on substance abuse, impaired decision-making, and, in some cases, hindering the recovery progress of individuals undergoing

rehabilitation or those who have received treatment. Post traumatic stress disorder can manifest in tangible physical distress, symptoms, and ailments, including sleep disturbances, nightmares, anxiety, depression, flashbacks, and dissociative episodes that make individuals feel detached from reality. It may also lead to paranoid thoughts, self-destructive behaviors, impulsivity, and a heightened susceptibility to substance use disorders. Similarly, Funk et al. (2013) observed that individuals often turn to drugs and alcohol as a means to escape unwanted emotions or numb painful emotional states in an attempt to cope with Post traumatic stress disorders.

According to the World Drug Report (2020), more than 35 million individuals grapple with alcohol and substance abuse problems, resulting in various forms of disorders. Consequently, in the year 2017 alone, more than 167,000 deaths were attributed to these experiences. This perspective is reinforced by the World Bank Report (2020), which asserts that approximately 3 million deaths are linked to alcohol and drug abuse.

The World Drug Report (2020) also indicates that one in eight individuals with substance use disorders has sought treatment, but 50% experience relapses after treatment, primarily because underlying conditions such as post-traumatic stress disorders often remain unaddressed. The global consequences of post-traumatic stress disorders (PTSD) and substance use disorders resulting from drug abuse are extensive, encompassing lost productivity, injuries, deaths, accidents, overdose fatalities, suicides, and violence. The need for drug abuse prevention, treatment, attention, and support remains largely unmet, particularly in developing countries, including Kenya (World Drug Report, 2011).

The profound impact of a single traumatic incident on an individual's emotional, psychological, and social well-being is noteworthy. According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-5, 2013), the criteria for PTSD include:

1. Exposure to distressing events, such as life-threatening situations, risk of injury, or acts of sexual abuse, either directly or indirectly, whether perpetrated by a close family member or a distant acquaintance, whether occurring once or repeatedly.
2. Experiencing symptoms such as intrusive memories, recurring stress, flashbacks, dreams, or hallucinations related to PTSD.
3. Persistent avoidance of reminders of the trauma or past traumatic experiences.
4. Negative emotions and mood changes, leading to emotional distress.
5. Noticeable alterations in reactivity, including heightened arousal, are often associated with traumatic experiences or any situation that exacerbates the condition of PTSD.
6. These experiences result in significant functional impairment in various aspects of an individual's life, including social, occupational, emotional, and overall well-being.

Multiple interventions can help individuals cope with the effects of PTSD, including debriefing sessions, psycho-education about Post traumatic stress disorder (PTSD), coping skill training (e.g., emotional expression, cognitive coping, relaxation exercises), addressing healthy sexuality and personal safety, and behavioral management, followed by aftercare sessions.

In summary, the emotional response to traumatic events or experiences is characterized by intrusive symptoms, avoidant behaviors, negative mood changes, and noticeable reactivity. The prolonged presence of these emotional responses may lead to PTSD, are the indicators are impairment in occupational, mental, social, and other key areas of functioning.

2.4.0 Review of Related Literature

This segment contains a review of related literature according to the study objectives. It also includes a research gap and a summary of the literature review.

2.4.1 The prevalence of Post traumatic stress disorder among clients with substance use disorder.

The prevalence of Post traumatic stress disorder (PTSD) refers to the proportion or percentage of individuals within a specific population who have experienced one or more traumatic events or experiences within a defined period. In a study conducted in California, M. Farley et al. (2004) reported that a significant majority (89%) of individuals disclosed a history of at least one traumatic event. The most prevalent experiences included serious accidents, robberies, witnessing severe injuries or death, and partner violence. Approximately one-third of the participants had a history of substance abuse disorder and had experienced relapses. Similarly, about one-third of the subjects had encountered partner violence, serious accidents, robberies, or had witnessed violence. Comparable rates of robbery were documented in another sample of patients with substance use disorder (Brown et al., 2003). This aligns with other research findings indicating that as many as nine out of ten individuals seeking treatment for substance abuse have a history of PTSD

(Argeriou & Daley, 1997; Berry & Sellman, 2001; Brown et al., 2003; Dansky et al., 1999; DiNitto et al., 2002; Swan et al., 2001). Relapses were more prevalent among patients who had experienced interpersonal violence, including rape, muggings, or witnessing violent acts. A higher number of reported PTSD increased the likelihood of relapse. Wadsworth, Stampneto, and Halbrook (1995) summarized several studies indicating that up to 90% of relapse-prone patients treated for substance abuse had a history of sexual abuse. Other studies also revealed a link between alcohol abuse and physical or sexual abuse, as well as community violence (Kabiru CW, Beguy D, Crichton J, Ezeh AC, 2010).

In Australia, nearly 80% of individuals seeking SUD treatment reported experiencing at least one traumatic event. However, only 45% screened positive for current PTSD symptoms. The average age at the time of the first traumatic event was 14 years. For incidents of rape, the female-to-male ratio was 9:1, while sexual molestation had a ratio of 5:1. Importantly, these patients exhibited high retention rates in rehabilitation centers (Dore, Mills, Murray, Teesson, & Farrugia, 2012).

Exposure to emotional abuse during childhood substantially increased the risk of lifetime tobacco use and current tobacco use, with rates 22.8 and 5.3 times higher, respectively. Tobacco use was also significantly associated with household members experiencing violence, leading to a fourfold increase in lifetime tobacco use. Having a family member with mental illness in the household raised the risk of current tobacco use by five times. This finding aligns with research by Anda and colleagues, which reported a connection between adverse childhood experiences and early smoking initiation (Anda RF et al., 1999). Another study indicated that exposure to adverse childhood experiences

elevated the risk of ongoing and heavy smoking in adulthood (Ford ES et al., 2011). The mood-enhancing properties of nicotine may elucidate why participants turned to smoking as a means to cope with emotional abuse and the burden of caregiving for a mentally ill household member. Physical abuse positively predicted current cannabis use, which is consistent with previous studies (Duncan AE, et al., 2009). In a cohort study by Alemu and colleagues, exposure to physical abuse was found to predict cannabis dependence (AOR = 2.81). Emotional abuse and neglect were also associated with cannabis dependence (Alemu A, et al., 2017). Another study revealed that childhood sexual abuse, but not physical abuse, increased the risk of cannabis abuse or dependence, illustrating that untreated PTSD may lead individuals to use drugs and compromise their recovery performance.

A study conducted among Somali refugees residing in Kakuma, Kenya, demonstrated that exposure to traumatic experiences predicted khat usage (Ndetei et al., 2017). Somali refugees who used khat screened positive for post-traumatic stress disorder, suggesting a potential influence of traumatic experiences on drug use.

In individuals with psychiatric disorders, substance use disorders (SUDs) are associated with significantly higher mortality rates, with Alcohol Use Disorders (AUD) exhibiting five times higher mortality rates (Chesney, Goodwin, & Fazel, 2014). In 2015, the World Health Organization (WHO) estimated that the Crude Death Rate (CDR) due to AUD in Africa and globally was 1.2 and 1.8, respectively, contributing to 9% of deaths in Africa. Disability-Adjusted Life Years (DALY) attributed to AUDs accounted for 8%, with Years of Life Lost (YLL) and Years Lost due to Disability (YLD) at 38% and 5% globally,

respectively. In Africa, DALY was 10% due to AUDs (WHO, 2017). Among males aged 30-49, the DALY was 47%, while females in the same age group exhibited a 42% DALY. Males also had a higher YLL of 46% between the ages of 30-49, compared to females with 40% in the same age group. In Kenya, the total DALY attributed to AUD was 0.2% (WHO, 2017).

In the general population, post-traumatic stress disorder (PTSD) affects approximately 6%-8% of individuals and is exacerbated when co-occurring with SUDs (Pietrzak, Goldstein, Southwick, & Grant, 2011). PTSD and SUDs often co-occur, with a prevalence of around 50% in inpatient populations (Ouimette, Brown, & Najavits, 1998). Another study found rates of 43% in inpatient populations and 62% in pregnant women receiving inpatient treatment for SUDs (Jacobsen, Southwick, & Kosten, 2001). In the United States, this dual diagnosis has been reported to occur at a rate of 46.4% (Pietrzak, Goldstein, Southwick, & Grant, 2011). In Cyprus, a cross-sectional study among Cypriot therapeutic communities for substance use reported a 40.6% co-occurrence rate (Papastavrou, Farmakas, Karayiannis, & Kotrotsiou, 2011). PTSD presents with multiple symptom domains, ranging from heightened arousal to symptoms indicative of central nervous depressant withdrawal. Arousal symptoms include poor concentration, disrupted sleep, increased alertness, irritability, and heightened startle response. Symptoms of central nervous depressant withdrawal encompass drowsiness, purposeless movements, panic attacks, involuntary hand tremors, transient delusions, and convulsions (Jacobsen, Southwick, & Kosten, 2001).

Comorbidity of PTSD in individuals with SUD is associated with a poorer prognosis, increased rates of relapse and hospitalization, elevated drug use, and impaired occupational functioning (Mills, 2008). This finding is supported by Ouimette et al. (1998), who reported that this comorbidity

2.4.2. Relapse Rates among Substance use clients with a Post traumatic stress disorder (PTSD) History

Moe et al. (2021) define relapse as the recurrence or return of symptoms or behaviors characteristic of a particular condition after a period of improvement or remission. In the context of substance use disorders (SUD), relapse specifically refers to the return to substance use after a period of abstinence or successful treatment. According to Wells (2000), a history of relapse is more prevalent among individuals who have encountered interpersonal violence, including incidents like rape, muggings, and witnessing violent events. The likelihood of relapse increases with the number of traumatic events experienced and untreated. Wadsworth, Stampneto, and Halbrook (1995) summarized several studies indicating that up to 90% of clients prone to relapse and treated for substance abuse had a history of sexual abuse. Among women entering treatment facilities with a triple diagnosis of mental illness, substance use disorder, and a history of PTSD, 70% to 85% reported a previous treatment episode within the past 5 years (Wells, 2000).

Exposure to violent traumatic events, such as rape and physical assault, has been linked to the development of a wide range of mental health such as PTSD and substance use disorders (Burnam, Stein, Golding, Siegel, & Sorenson, 1988; Kendall-Tackett,

Williams, & Finkelhor, 1993; Resnick, Kilpatrick, Dansky, Saunders, & Best, 1993; Ruggiero, Bernstein, & Handelsman, 1999). If trauma is common among individuals with substance use disorders, they are likely to be at an elevated risk for post-traumatic stress disorder, which could complicate substance abuse treatment (Brown, Read, & Kahler, 2003; Brown, Recupero, & Stout, 1995; Grice, Dustan, & Brady, 1995). A history of PTSD increases the risk of drug and alcohol use (Kilpatrick, Acierno, Resnick, Saunders, & Best, 1997; Miranda, Meyerson, Long, Marx, & Simpson, 2002; Wilsnack, Vogeltanz, Klassen, & Harris, 1997). Sexual assault (Burnam et al., 1988; Kilpatrick et al., 1997; Lown & Vega, 2001), childhood sexual abuse (Hiebert-Murphy & Woytkiw, 2000; Kendler et al., 2000; Neumann, Houskamp, Pollack, & Briere, 1996; Wilsnack et al., 1997; Zweben, 1996), physical assault (Lown & Vega, 2001), and partner violence (Golding, 1999; Lown & Vega, 2001) are each associated with drug and alcohol abuse or dependence. Compared to individuals without substance use disorder, those with substance use disorder report more post-traumatic stress disorders (Cottler, Compton, & Mager, 1992). Among those seeking treatment for substance use disorder, 42-95% report histories of PTSD (Argeriou & Daley, 1997; Berry & Sellman, 2001; Brown et al., 2003; Dansky, Byrne, & Brady, 1999; Dansky, Saladin, Brady, Kilpatrick, & Resnick, 1995; DiNitto, Webb, & Rubin, 2002; Miller & Downs, 1995; Swan, Farber, & Campbell, 2001).

Njoroge (2018) observes that in Kenya 66% of adult addicts and 75% of adolescent addicts experience relapses within six months of discontinuing addiction treatment. Relapse can be attributed to various internal and external factors, including mental illnesses (anxiety/neuroticism), withdrawal, cognitive deficits (intellectual and learning disabilities), boredom, unemployment, deficient coping strategies, interpersonal conflict, social

pressure, lack of support, stigmatization, absence of leisure activities, and insufficient treatment facilities (Njoroge, 2018; Ramo and Brown, 2008). Most studies reveal that adolescents relapsing after a prolonged period of abstinence succumb to social pressure, even after initiating detoxification treatment (Ramo et al., 2005; Swanepoel et al., 2016). Negative interpersonal states also explain relapses and account for 33% of relapse cases (Ramo and Brown, 2008). A proportion of addicts exhibit deficient coping strategies, leading them to use illicit substances as a means to escape from personal issues such as frustration, anger, depression, anxiety, boredom, and disappointment (Hyman and Sinha, 2009).

2.4.3. Perception of safety and sobriety among clients with substance use disorder who have had post-traumatic stress disorders

Safety and sobriety are important in enhancing the recovery process of clients of PTSD who also have substance use disorder. Sobriety refers to the physiological and psychological state of being unaffected by the presence of an intoxicant (National Association for Children of Addiction, 2007). Carriere (2014), noted that at least five hundred million individuals encountered PTSD and exposure to emotional abuse at some point in their lives. This has had a very negative impact on their future lives. This impact is experienced in their psychological balance, neural circuits, their state of emotions, their differences in terms of how they view the world, their view of self, their sense of purpose as well as their state of social relations. If their traumatic experiences are not treated on time, they have the potential to transform into PTSD, and it may trigger or aggravate indulgence with substance abuse (Chesen e all 2011, priebe 2009). Eventually, this may compromise recovery performance and the overall wellness of the person and levels of

functioning in the physical, psychological, emotional and social continuum. Further, the indicators of recovery performance in an individual will be seen through an individual's state of composure and expression of feelings and thoughts (stable gait and emotional intelligence), ability to have meaningful conversations and healthy interpersonal relationships, physical strength to be able to perform various tasks, (e.g., Maintain a job) and level of mental stability, being discharged from a treatment center, just to mention but a few.

To date, there has been divergent theoretical and clinical thinking on sobriety and safety during recovery from drug abuse. Common characterizations include: "a process of change through which an individual achieves abstinence and improved health, overall wellness, and quality of life" (CSAT 2007). A voluntarily maintained lifestyle comprises of sobriety, personal health, and citizenship" (Betty Ford Institute 2007), or "a process of change through which individuals improve their health and wellness, live a self-directed life, and strive to reach their full potential" (SAMHSA 2011b).

Gonzales et al (2013), using a second-order factor analysis of 16 items from the DAA survey throughout Los Angeles loaded into four factors of recovery behaviors, including: (1) lifestyle improvement; (2) drug environment/culture change; (3) changing personal drug behaviors; and (4) therapeutic activities. Principal component analysis showed that roughly 56.5% of the variance was explained in the total correlation matrix. The four factor loading accounted for 30.6%, 11.1%, 8.3%, and 6.6% of the variance in the matrix respectively, with eigenvalues greater than one. Using these four scales, survey results indicate that 95.7% of the respondents rated lifestyle improvement to be the most important aspect of recovery. This factor included the following five related DAA

behavioral items: finding a job or vocation, getting back to school, getting involved in extracurricular activities/hobbies, spending time with family, and going to church. The second highly ranked recovery DAA factor (89.6%) had to do with "changing personal drug behavior." This factor consisted of four items related to scheduling time, getting rid of drug paraphernalia, stopping the use of other substances, and limiting access to money. Approximately 82.5% of the sample rated "changing drug culture/environment" as an important DAA factor for recovery. This factor included three DAA behavioral items: spending time with people who do not use, avoiding people who use drugs, and avoiding places where drugs are.

According to the National Institute on Drug Abuse (NIDA) substance use among youth under 24 represents a priority health issue (CDCP 2009) that greatly impacts public health, social service, educational, and legal systems (CASA Columbia 2001). Roughly 74% of mortality among persons aged between 10–24 years is attributed to high-risk behaviors, including automobile injuries due to preventable accidents, homicide, and suicide, all of which are associated with illicit drug and alcohol misuse (CDCP 2009). In light of this, understanding substance-abusing people's perceptions about the importance of drug-avoidance behaviors and essential recovery needs, as done by this study, offers insight for the treatment community working to address this larger substance use issue. The types of drug-avoidance recovery behaviors that were ranked as important for achieving a successful recovery during and after treatment included "lifestyle improvement activities" within the areas of employment/careers, school, extracurricular activities/hobbies, family, and church. These findings fit well with SAMHSA's (2011b) current definition of recovery and sobriety, which is considered to be "a process of change through which individuals

improve their health and wellness, live a self-directed life, and strive to reach their full potential." When examining recovery, it is also important to consider developmental trajectories, given that during the developmental years, people experience major biological, cognitive, social, and emotional changes that influence self-identity formation, which can be greatly affected by drug use patterns (Achenbach, McConaughy, & Howell 1987). For instance, substance abuse during the developmental years can negatively affect various aspects of self-identity, which affects the progression and maintenance of such problem behaviors over time (Bishop et al. 2005; Jones et al. 1989).

Several studies around self-identify formation with ethnically diverse persons have found that people who hold positive "ethnic identity" perceptions tend to be protected against detrimental outcomes, such as fatalistic attitudes around disease progression (Arbona et al. 1999; Belgrave, Marin & Chambers 2000). Although there is complexity in the developmental pathways that lead people to engage in drug use behaviors, it is an important area to study given that it is during this developmental period that the risk is greatest for the onset of later drug problems (dependence/addiction) (Dennis et al. 2005). Two other drug-avoidance areas that were rated as very important for having a successful recovery had to do with changing personal drug behaviors and changing drug environment/culture. Relapse is influenced by a social context or an environment that can facilitate or impede recovery (Ramirez et al. 2002); hence promoting change in terms of "spending time with non-drug using peers, getting rid of drug paraphernalia and stopping the use of other substances, scheduling time, and limiting access to money" holds promise to reinforce abstinence.

In summary, the relationship between the perception of safety and sobriety among clients with substance use disorder who have experienced PTSD is intertwined and dynamic. Safety is a crucial factor that can influence an individual's ability to achieve and sustain sobriety, addressing PTSD and creating a safe treatment environment are key components of effective care in this context. The recovery field is challenged by the diverse nature of substance-abusing people in terms of developmental behavioral, social, and cultural factors; hence future research is needed to further examine recovery behaviors within the context of personal, cultural, and social characteristics.

2.4.4. Potential Intervention Strategies for Treating Clients with Substance Use Disorder and PTSD Experience

Interventions for substance use disorder encompass a range of psycho-social and pharmacological approaches (Scheekloth et al., 2012). These include medications such as disulfiram, psycho-social treatments like cognitive-behavioral therapy (CBT), motivational interviewing enhancement therapy, 12-step facilitation, contingency management, relapse prevention therapy, and family therapy (Fiabane et al., 2017). In hospital settings in Kenya, a parenteral high-potency drug combination of vitamins B and C is commonly used for alcohol detoxification (Kuria, 2013). Trazodone is utilized during treatment to address sleep disturbances in SUD recovery, although a study in the USA found no association between trazodone use at discharge and relapse at 6 months (Kolla et al., 2011).

Farabee (2002) identified therapeutic strategies like cognitive-behavioral thought-stopping techniques and avoidance of places where drugs are available as crucial recovery

activities associated with positive outcomes for drug-dependent adults who have experienced multiple PTSDs. These findings suggest a need to reconsider traditional recovery approaches such as 12-step programs and Alcoholics Anonymous (AA) for individuals recovering from substance use disorders with a history of PTSD. Alternative, more tailored approaches may be more effective. Traditional approaches like 12-step facilitation and AA meetings are not universally embraced by those seeking recovery (Kelly, Myers & Brown, 2005), as they may not align with their specific needs or concerns (e.g., lack of behavioral control to stop substance use and the perception of a life-long recovery process) (Sussman, 2010; Gonzales et al., 2012). Research indicates that participation in or attendance at 12-step meetings is limited (Alcoholics Anonymous, 2007). Therefore, individuals in treatment may benefit from alternative settings or environments.

Exploring potential intervention strategies for the treatment of clients with substance use disorder who have experienced PTSD is crucial to helping service providers design effective recovery support programs. Effective recovery-support services are needed to mitigate the risk of relapse that clients face during their transition from treatment to high-risk environments, both internally (mentally) and externally (socially) (Ramos & Brown, 2008).

2.5. Summary of Review of Literature and Research gap

The primary research gap in this study was that of existing literature, while it provided insights into the impact of post-traumatic stress disorders (PTSD) and substance abuse, did not comprehensively address the relationship between post-traumatic stress

disorders and recovery performance among clients with substance use disorders. Therefore, there was a notable gap in this area that needed to be addressed. Although various studies have explored PTSD (post-traumatic stress disorder) and addiction treatment or recovery, only a limited number of them have focused on the specific group of clients with a history of PTSD and its impact on their treatment outcomes. The majority of these studies either primarily examined substance use disorders (SUD) or focused on post-traumatic stress disorders separately, resulting in an incomplete understanding of the interplay between post-traumatic stress disorders and recovery. This gap becomes evident when treatment for clients with substance use disorders and a history of post-traumatic stress disorders is considered. The existing literature typically failed to satisfactorily address post-traumatic stress disorder treatment and the potential effects on recovery performance among clients with substance use disorders. Additionally, previous research has often not sufficiently explored the relationship between craving and disturbing thoughts related to post-traumatic stress disorders and how these factors may influence the recovery process. Therefore, this study aimed to bridge this research gap by investigating the existence and nature of the relationship between post-traumatic stress disorders and recovery performance in clients with substance use disorders. If the gap is not adequately addressed, we will continue to see a surge of relapsed clients who were unable to maintain sobriety post treatment.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The central idea behind this chapter was to explain the methods by which this study was operationalized. This was by way of explaining the research design on which this study was anchored. Issues such as the study site, sample size, target population, ethical considerations, sampling design, and the type of research instruments that were used to collect data among other things were explained in detail. At the end of the chapter, the researcher displayed a high level of objectivity and professional research ethics were demonstrated.

3.2 Research Design

This research project employed the correlational research design. Correlational research allows researchers to examine the relationship between two or more variables without manipulating them. In this study, correlational design enabled the investigation of the relationship between PTSD and recovery performance among clients with SUDs. By measuring these variables as they naturally occur, the researcher was able to determine the relationship between them (Howell, 2010).

Overall, the use of a correlational research design in this study allowed for the exploration of the relationship between PTSD and recovery performance among clients

with SUDs in a real-world context, providing valuable insights to inform clinical practice and intervention strategies.

3.3 Research Site

The study location was Nairobi County, which has 21 rehabilitation centers as stipulated by a report from the head of treatment Nacada, (2019). According to previous findings on a national survey on the status of drugs and substance use in Kenya, the county has a higher number of rehabilitation and treatment centers, Nairobi County being cosmopolitan is socially and economically diverse, and there was ease in accessibility of drugs of abuse (Nacada, 2022). The social safety net which may be provided by the community in rural areas was noted to be lacking in Nairobi County being cosmopolitan.

3.4 Target Population

The target population for this study was 100,000. The research focused on the persons in treatment who relapsed after treatment as they were the only clients whose recovery performance could have been measured. People who have PTSD history are vulnerable and a risk group. As asserted in a study by Ouimette et al., (2007) patients reported self-medicating behaviour and craving after PTSD. They declared that coping motives were the most important reasons they used substances and that relapse often happened when they perceived no other means of coping with a difficult situation. Previous researchers who compared the coping styles of substance use disorder patients with and without PTSD found that substance use disorder and PTSD patients are characterized by a maladaptive coping style (Gielen et al., 2015)

3.5 Study Sample and sampling procedure.

The sample size for the present study was 200. This was calculated using the Krejcie and Morgan formula. The Krejcie and Morgan formula is commonly used for determining sample sizes in research studies with finite populations. It calculates the required sample size based on the population size and the desired level of confidence. It was therefore calculated as follows:

$$\boldsymbol{n} = \frac{100000 \times 1.962 \times 0.5 \times 0.5}{100000 \times 1.962 \times 0.5 \times 0.5 + 0.052 \times (100000 - 1)}$$

$$n = \frac{100000 \times 3.8416 \times 0.25}{100000 \times 3.8416 \times 0.25 \times +0.0025 \times 99999)}$$

$$n = \frac{960400}{960649.9975}$$

$$n = 199.75$$

Hence, the sample size was rounded up to 200

A list of registered and accredited treatment and rehabilitation centers was obtained from Nacada. A sample frame was established by arranging the treatment center into two levels, private and public. Thereafter, they were arranged in alphabetical order and eventually using random sampling five centers were selected for the study. A sample size

was obtained from clients currently in treatment who had relapsed. Clients with or without PTSD history were selected randomly for comparison. The sample size was 200 according to the formula of Krejcie and Morgan (1970) for an estimated population of 100,000. clients at a 95% confidence level (MOEST, 2014).

3.6 Data Collection

3.6.1 Data Collection Instruments

Questionnaires to respondents were adopted for the study which were constructed by the researcher except for the ITQ questionnaire. They were appropriate for the study due to their flexibility for respondents, data accuracy, anonymity and cost effective. It was a self-report assessment tool designed to evaluate the progress and performance of clients in recovery from substance use disorder. This comprehensive questionnaire explored various aspects of recovery, focusing on behavioral, emotional, and social dimensions. It was structured to provide insights into the recovery performance and identify areas for ongoing support and improvement. The tool was used to help identify strengths and areas requiring additional support, guiding individualized treatment plans and recovery strategies.

The International Trauma Questionnaire is intended to diagnose any traumatic exposure. The researcher focused on PTSD symptoms i.e. re-experiencing, avoidance, negative changes in mood, and hyper arousal as well as symptoms of complex trauma i.e. disruptions in self-organization, such as emotional disregulation, negative self-concept, and difficulties in relationships. The International PTSD Questionnaire (ITQ) has 18 questions meant for self-reporting and measures the core features of post-traumatic stress disorder (PTSD) and Complex PTSD (CPTSD). Some of the developers of ITQ include

Cloitre, M., Shevlin M., Brewin, C.R., among others. The International PTSD Questionnaire (ITQ) tool was useful in the assessment of adults who had experienced PTSD and about a specific traumatic event or experience. It was developed to be consistent with the organizing principles of the ICD-11. (Cloitre et al. 2018). The questionnaires were chosen for this study as they offered confidentiality and anonymity which encouraged the participants to give information without fear of being stigmatized.

3.6.2 Pilot Study and Testing of Research Instruments

Wright (2018) defines a pilot test as a preliminary test conducted before the final study to ensure that research instruments are working properly. The researcher conducted a pilot study in treatment and rehabilitation in Kikuyu sub-county which is in Kiambu County and had characteristics similar to those within Nairobi County. They included Polka-dots wellness and retreat centre, phoenix rehabilitation, dove international treatment centre and Path Africa treatment centre. This took place before the main study. This raised the levels of reliability of the research findings since it raised the accuracy levels. Data collected from the pilot study was excluded from the analysis of data for a research report.

The purpose of piloting was to allow the researcher to test the research methods, instruments, and procedures before conducting the full-scale study. This was to help identify any potential flaws, ambiguities, or practical issues in data collection, allowing researchers to refine and improve their methods for the main study. Piloting also helps researchers assess the feasibility of their study design, including recruitment strategies, sample size, data collection logistics, and time requirements. It provides an opportunity to

identify any challenges or barriers that may arise during the main study and develop strategies to address them (Wright, 2018)

Overall, piloting played a crucial role in improving the quality, feasibility, and ethical integrity of research studies, ultimately contributing to the validity and reliability of research findings. It helped the researcher anticipate and address potential challenges, optimize research procedures, and enhance the overall success of the study.

3.6.3 Instrument Reliability

The study adopted the test and retest method as the strategy for improving on the reliability of the research instruments. The researcher conducted a pilot study in treatment and rehabilitations in the Kikuyu sub-county which is in Kiambu County and has characteristics similar to those within Nairobi County. This took place before the main study. It raised the levels of reliability of the research findings since it raised the accuracy levels. Data collected from the pilot study was excluded from the analysis of data for a research report. Reliability refers to a measure of the degree to which research instruments yield consistent results (Mugenda & Mugenda 2003). In this study, Cronbach's alpha coefficient was used to determine the average internal consistency (reliability) of all the items that were used to measure the specific objectives of this study. The internal consistency measures 0.756 which is acceptable

3.6.4 Instrument Validity

The validity of this study was raised through measuring scales which had already been validated by the International PTSD Questionnaire (ITQ). (Previously used by D Murphy 2020, Cloitre et al., 2018; Karatzias et al., 2017 among others). Under internal validity, the researcher shared the research instruments with her course colleagues. The

ideas they gave with regards to the research instruments were verified and a subsequent improvement of the said instruments was done. Whatever views were given were adopted and the instruments improved further. On the question of construct validity, the researcher compared the ideas from different research writers on how best to construct the research instrument. The researcher compared her questionnaire and checked if it conformed to the prescribed guidelines and if it was in line with the study objectives.

3.7 Data processing and analysis

Demographic data was analyzed using cross tabulation and was displayed through tables, charts, and bar charts. The researcher also used the Pearson Chi-Square to be able to determine whether there is an association between categorical variables (i.e., whether the variables are independent or related). It was chosen as it had categorical variables. The conditions for mediation were established according to the criteria set by Baron and Kenny (Baron and Kenny, 1986).

3.8 Ethical Considerations

The researcher ensured ethical considerations of this study was adhered to. First and foremost, the researcher sought consent and clearance from the ANU research ethics committee and the Ministry of Education National Council for Science Technology and Innovation (NACOSTI). This was done after ensuring that she had adhered to the set ANU guidelines for conducting research. The main ethical consideration for this study was confidentiality and getting the consent of the respondents. In this case, the respondents were briefed on the entire facts about this study. They were assured that the data collected was used for study purposes only and not for any other reason. Similarly, the researcher sought their consent before issuing the questionnaires. The respondents were free to avoid

responding to those questions that they would feel uncomfortable responding to. A consent letter containing the above information was given to all participants to sign before responding to the questionnaires. Anonymity and confidentiality were enhanced by issuing questionnaires that were filled privately and handed to the researcher upon completion. This being a sensitive area, the research assistants were counselors competent in crisis management and PTSD debriefing as well as referrals where traumatic memories were evoked during the study period. In addition to this, the researcher carried her school and national ID card, a copy of research license and the letter of introduction from the university. This was for identification purposes.

CHAPTER FOUR

DATA PRESENTATIONS, INTERPRETATION AND DISCUSSION OF FINDINGS

4.1 Introduction

This chapter presents, interprets and discusses data findings of the study. The study sought to establish the relationship between PTSD and recovery performance among clients with substance use disorders in selected rehabilitation centers in Nairobi County. The data analysis is based on the objectives of the study. Data collected from the field was analyzed using descriptive and inferential statistics and presented using frequency tables, Pearson correlation, cross tabs, pie charts and texts.

Table 1: Questionnaire Return Rate

Respondent Type	**Targeted Questionnaires**		**Returned Questionnaires**	
	f	**%**	***f***	**%**
Respondents	200	100	196	98
Total	**200**		**196**	**98**

Table 1 shows that originally, the study distributed 200 questionnaires but only received 196 (98%) of them. The client respondents that failed to participate amounted to 4 (2%). However, the number that was able to participate was representative enough to allow generalization of results as was initially envisaged by the study. According to Teresia (2021) a response rate of 70% and above is regarded as very good. This implies that the questionnaire return rate for this study (98%) was satisfactory for the study.

4.2 Demographic Information of the Respondents

The study sought to understand the demographic information of the respondents with the aim of placing them in their right perspective. Information sought was on age, gender, country, county, education and marital status.

4.2.1 Age Distribution

Table 2: Age Distribution

Age distribution	Frequency	Percent
20-29	104	53.1%
30-39	76	38.8%
40-49	12	6.1%
50 and above	4	2.0%
Total	**196**	**100.0**

Table 2 shows that those aged 20-29 years accounted for 104(53.1%) of the respondents followed by those aged 30-39 years at 76(38.8%), then those aged 40-49 years at 12(6.1%) while the least number of respondents were aged 50 and above (2%).

This information provides an overview of the age distribution within the sample. The highest proportion of respondents falls within the 20-29 age group, followed by the 30-39 age group. The 40-49 age group has a smaller representation, and the 50 and above age group had the fewest respondents. It can therefore be argued that those mostly affected by issues of Post traumatic stress disorders, substance abuse and relapse belong to this age group. This information is valuable for understanding the characteristics of the sample and generalizing findings to the population of interest.

4.2.2 Gender Distribution

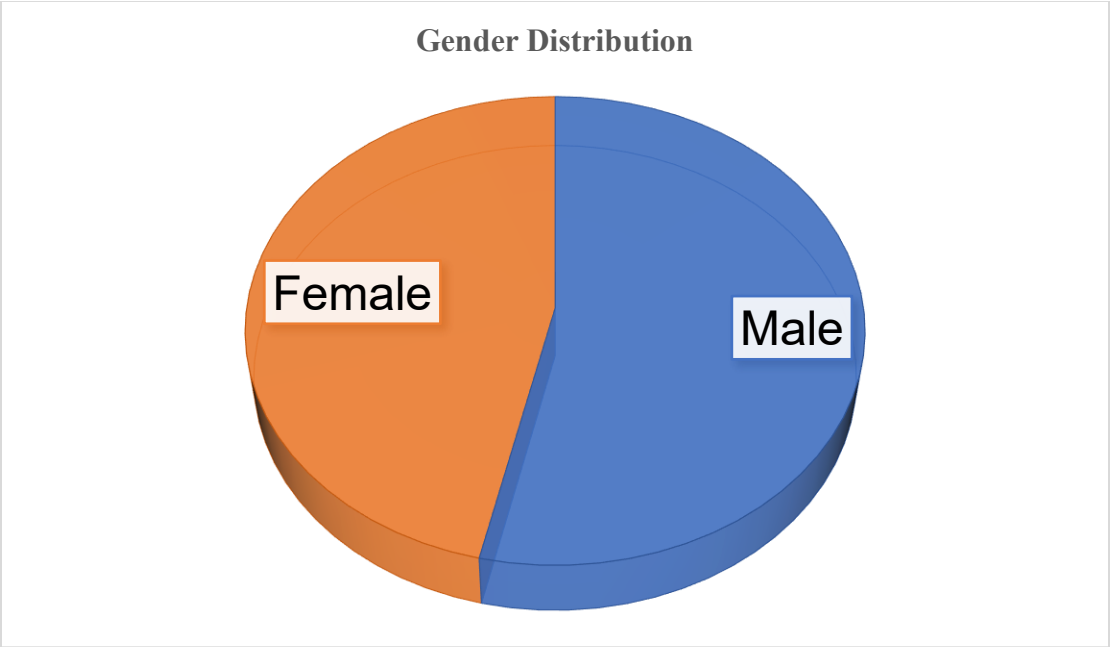


Figure 2: Gender Distribution

Gender distribution shows that male participants were 110(59.6%) while 86(41.4%) were females. This information indicates that the majority of the study participants were male, constituting 59.6% of the sample, while females made up 41.4%. Understanding the gender distribution is essential for considering potential gender-related factors that may influence the relationship between Post traumatic stress disorder and recovery performance among clients with substance use disorders. Although male participants out-numbered their female counterparts, the study was able to enlist both genders to satisfactory levels.

4.2.3 Country of Origin

Table 3: Country of Origin

Which country do you come from?	Frequency	Percent

Kenya	176	89.8
Rwanda	2	1.0
Tanzania	10	5.1
Somali	4	2.0
Sudan	4	2.0
Total	**196**	**100.0**

The study shows that 176(89.8%) of the respondents originated from Kenya, followed by 10(5.1%) from Tanzania, 4(2%) each from Somalia and Sudan while Rwanda had 2 (1%). This implies that most of the respondents were from Kenya. This information indicates that the majority of respondents, almost 90%, are from Kenya. Tanzania has the second-highest representation with 5.1%, and Somalia and Sudan have equal representation at 2% each. Rwanda has the smallest representation at 1%. Understanding the geographical distribution of participants is crucial, as cultural, social, and contextual factors may vary across different countries and regions. It's important to consider these factors when interpreting the study's findings and their potential generalizability to different populations.

4.2.4 County of Residence

Table 4: County of Residence

Which County do you Reside in?	**Frequency**	**Percent**
Nairobi	79	40.3%
Nandi	7	3.6%
Machakos	29	14.8%
Mombasa	8	4.1%
Hargeisa	7	3.6%
Mogadishu	9	4.6%
Nakuru	4	2.0%
Clay	6	3.1%
Kajiado	47	24.0%
Total	**196**	**100.0**

Table 4 shows that majority of the respondents reside in Nairobi at 79(40.3%), followed by Kajiado at 47(24%, Machakos at 29(14.8%) came third; Mogadishu 9(4.6%) fourth; Mombasa 8(4.1%) fifth; Hargeisa 7(3.6%) sixth; Clay 6(3.1%) seventh while Nakuru 4(2%) came last. This implies that most of the respondents were within Nairobi County where most of the rehabilitation centers were located, followed by Kajiado County and Machakos County which neighbors Nairobi County.

This information indicates that the majority of respondents reside in Nairobi (40.3%), followed by Kajiado (24%) and Machakos (14.8%). Mombasa, Khartoum, Hargeisa, Clay, and Nakuru make up the rest of the residence distribution. The interpretation notes that most respondents are within Nairobi County, where the majority of rehabilitation centers are located. Additionally, respondents from Kajiado and Machakos counties, which are neighboring Nairobi, also contribute significantly to the study.

Understanding the geographical distribution of participants is important as it may have implications for the generalizability of study findings to specific regions or populations. It helps contextualize the study's results and consider any regional or local factors that may influence the relationship between Post traumatic stress disorder and recovery performance.

4.2.5 Educational Level

Table 5: Educational Level

Educational Level	Frequency	Percent
Below high school	11	5.6%
High school	61	31.1%
College/Technical School	99	50.5%

Bachelor degree	22	11.2%
Masters & above	3	1.5%
Total	**196**	**100.0**

Table 5 shows that the highest number of respondents (99, or 50.5%) had a college education. They were followed by those with high school education at 61 (31.1%), followed by 22 (11.2%) who had bachelor's degrees. Those with below-high school education were 11 (5.6%), while the least of the respondents had a master's level of education or above at 3 (1.5%).

The fact that 50.5% of the respondents had a college education suggests a significant portion of the sample has received a higher level of education. This might influence how they engage with the rehabilitation process, as education can impact one's understanding of health-related information and their ability to follow treatment plans. With 31.1% of respondents having a high school education, this group constitutes a substantial portion as well. The level of education can affect one's cognitive abilities, comprehension of therapy sessions, and adherence to recovery strategies. The 11.2% of respondents with bachelor's degrees represent a smaller but still notable portion. Individuals with bachelor's degrees might approach their recovery with a different perspective, potentially leveraging their educational background in the rehabilitation process.

The 5.6% with education below high school may face unique challenges, possibly related to lower educational attainment impacting their understanding of the recovery process and engagement with treatment. Master's Level and Above: The smallest group at 1.5%, those with a master's level of education or above, may have distinct characteristics

or resources that influence their recovery process. This group's insights could be valuable for understanding how individuals with higher educational levels navigate substance use disorder recovery.

4.2.6 Marital Status

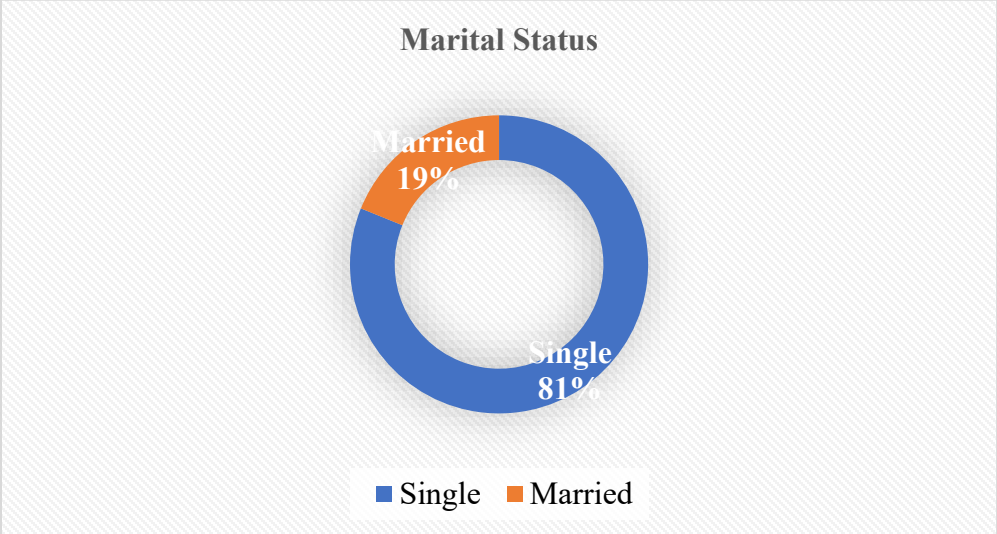


Figure 3: Marital Status

The marital status distribution shows that 159 (81%) of the respondents were single while the remaining 37 (19%) were married. This implies that most of the respondents were not married. The marital status distribution among the respondents in this study is an important demographic factor that provides insights into the social context of individuals with substance use disorders in selected rehabilitation centers in Nairobi County.

The fact that 81% of respondents are single indicates that a majority of individuals seeking rehabilitation services for substance use disorders in this sample are not currently married. This may have implications for their support systems and the availability of familial or spousal support during the recovery process. Being single could mean fewer immediate family responsibilities or support structures, but it might also indicate a potential

lack of a stable social support system. Exploring the impact of singleness on recovery experiences and outcomes could provide valuable insights for tailoring support programs.

The 19% of respondents who are married constitute a smaller but still significant portion of the sample. Their marital status may influence their recovery journey, as they may have access to support from a spouse, potentially affecting their motivation and ability to engage in the rehabilitation process.

4.3 Prevalence of Post traumatic stress disorder among Clients with Substance Use Disorder

This objective sought to establish the prevalence of Post traumatic stress disorder among the respondents. The analysis began by assessing the prevalence of PTSD among the respondents using the international trauma Questionnaire as follows:

4.3.1 PTSD Scale Results using the International Trauma Questionnaire

Table 6: Scale Results

Statements	Not at all	A little bit	Moderately	Quite a bit	Extremely
Have upsetting dreams that replay part of the experience or are related to the experience?	5(2.6%)	0(0%)	15(8%)	46(23.5%)	130(66%)
Having powerful images or memories that sometimes come into your mind in which you feel the experience is happening again in the here and now?	0(0%)	0(0%)	7(3.6%)	15(8%)	174(89%)
Avoiding internal reminders of the experience (For example, thoughts, feelings, or physical sensations?	0(0%)	0(0%)	10(5%)	66(34%)	120(61%)
Avoiding external reminders of the experience (For example, people, places, conversations, objects, activities, or situations?	0(0%)	0(0%)	10(5%)	59(30%)	127(65%)
Being Super alert, watchful, or on guard?	0(0%)	0(0%)	19(9.7%)	15(8%)	162(83%)
Feeling jumpy or easily startled?	0(0%)	0(0%)	5(2.6%)	4(2%)	187(95.4%)
In the past month have the above problems affected your relationships or social life?	0(0%)	0(0%)	1(0.5%)	1(0.5%)	194(99%)
Affected your work or ability to work	0(0%)	0(0%)	1(0.5%)	3(1.5%)	192(98%)
Affected any other part of your life such as parenting, school or college work, or other important activities	0(0%)	0(0%)	0(0%)	0(0%)	196(100%)

When I am upset, it takes me a long time to calm down	0(0%)	0(0%)	0(0%)	0(0%)	196(100%)
I feel numb or emotionally shut down	0(0%)	0(0%)	5(2.6%)	4(2%)	187 (95.4%)
I feel like a failure	0(0%)	1(0.5%)	3(1.5%)	7(3.6%)	185 (94.4%)
I feel worthless	0(0%)	0(0%)	2(1%)	9(4.6%)	185 (94.4%)
I feel distant or cut off from people	0(0%)	0(0%)	6(3%)	14(7%)	176(90%)
I find it hard to stay emotionally close to people	0(0%)	0(0%)	1(0.5%)	3(1.5%)	192(98%)
Created concern or distress about relationships or social life?	0(0%)	0(0%)	4(2%)	7(3.6%)	185(94.4%)
In the past month, have the above problems affected your work or ability to work?	0(0%)	0(0%)	7(3.6%)	2(1%)	187(95.4%)
In the past month, have the above problems affected any other important parts of your life such as parenting, school or college work or other important activities?	0(0%)	0(0%)	3(1.5%)	11(5.6%)	182(93%)

4.3.2 Upsetting Dreams of the Incidence

Using the International Trauma Scale, the respondents were asked whether they have been having upsetting dreams that replay part of the experience or are related to the experience. The study shows that 130 (66%) of the respondents reported having extremely upsetting dreams replaying parts of their traumatic experiences, indicated they had it extremely; 46 (23.5%) had these dreams quite a bit; 15 (8%) experienced them moderately while 5 (2.6%) did not have upsetting dreams related to PTSD all.

This suggests a high prevalence of distressing dreams among individuals with substance use disorders who have a history of PTSD. In summary, the study highlights a high prevalence of PTSD among individuals with substance use disorders in the selected rehabilitation centers in Nairobi County. This conforms with the Diagnostic and Statistical Manual of Mental Disorders (DSM-5, 2013) whose criteria for identifying a client with PTSD includes those experiencing symptoms such as intrusive memories, recurring stress, flashbacks, dreams, or hallucinations related to the traumatic event.

4.3.3 Having Powerful Images or Memories of the Incidence

The respondents were asked whether they had powerful images or memories that sometimes came into their mind in which they felt the experience was happening again in

the here and now. The study shows that 174 (89%) reported to extremely having those powerful images or memories; 15(8%) experienced the powerful images quite a bit while 7 (4%) experienced them moderately.

These results suggest that a significant majority of individuals with substance use disorders and a history of PTSD in the selected rehabilitation centers in Nairobi County are dealing with intense and recurrent memories or images of their traumatic experiences. This can be indicative of the profound impact that PTSD has on their mental well-being and may contribute to the complexity of their recovery process. This finding is consistent with the findings of Brewin et al. (2010), who observed that patients suffering from psychosis, depression, eating disorders, post traumatic stress disorder, and other anxiety disorders often report recurrent visual intrusions that are associated with a small number of real or imagined events. These intrusions are typically very detailed, and vivid, and contain highly distressing content.

The information adds another layer to the understanding of the prevalence and intensity of PTSD symptoms among the study participants. It underscores the need for comprehensive interventions and supports tailored to address the specific challenges faced by individuals with co-occurring substance use disorders and PTSD.

4.3.4 Avoiding internal Reminders of Post traumatic stress disorder

The respondents were asked whether they were avoiding internal reminders of the experience (For example, thoughts, feelings, or physical sensations?). The study shows that 120 (61%) reported extremely avoiding such reminders; 66 (34%) reported avoiding such reminders quite a bit and 10 (5%) reported moderately avoiding such internal reminders.

These results suggest a notable prevalence of avoidance behaviors among individuals with substance use disorders who have a history of PTSD in the selected rehabilitation centers in Nairobi County. The high percentage of respondents reporting extreme avoidance implies that a significant portion of the sample actively avoids thoughts, feelings, or physical sensations associated with their traumatic experiences.

This information underscores the importance of recognizing and addressing avoidance behaviors in the context of PTSD and substance use disorders. Effective interventions may need to focus on reducing avoidance and facilitating a more adaptive approach to coping with internal reminders. Creating a therapeutic environment that encourages individuals to gradually confront and process their traumatic experiences could be a key component of treatment strategies for this population.

4.3.5 Avoiding External Reminders of Post traumatic stress disorder

The respondents were asked whether they were avoiding external reminders of the experience (For example, people, places, conversations, objects, activities, or situations. Those who reported to be extremely experiencing avoidance of those external reminders were 127 (65%), followed by 59 (30%) who felt it quite a bit while 10 (5%) reported avoiding such external reminders moderately.

These results suggest that a substantial proportion of individuals with substance use disorders and a history of PTSD in the selected rehabilitation centers in Nairobi County actively avoid external reminders, such as people, places, conversations, objects, activities, or situations associated with their traumatic experiences.

High levels of extreme avoidance indicate the significant impact of PTSD on the daily lives and interactions of the study participants. This avoidance of external reminders

may contribute to difficulties in social, occupational, or recreational activities, highlighting the complexity of addressing substances use disorders and PTSD in the rehabilitation process.

Developing tailored interventions that address external avoidance behaviors and provide coping strategies for navigating triggering situations is crucial. Creating an environment that supports gradual exposure to these external reminders, within a therapeutic context, can be an essential aspect of comprehensive treatment for individuals dealing with both co-currying conditions i.e. substance use disorders and Post traumatic stress disorder.

4.3.6 Being Super Alert, Watchful or on Guard

The respondents were asked whether they were experiencing being super alert, watchful or on guard, to which, 162 (83%) reported to extremely being alert, 19 (10%) reported being moderately super alert while 15 (8%) reported being alert quite a bit.

This part of the study explores respondents' experiences of heightened vigilance or being on guard. These results indicate that a significant majority of individuals with substance use disorders and a history of PTSD in the selected rehabilitation centers in Nairobi County are experiencing heightened vigilance and a sense of being on guard. This heightened state of alertness is a common symptom of hyper arousal often associated with PTSD related disorders.

Understanding the prevalence and intensity of such symptoms is crucial for designing targeted interventions. It suggests that individuals in this population may face challenges related to hyper vigilance that could impact their daily functioning and overall well-being. Interventions and treatment strategies should consider these symptoms and

work towards promoting a sense of safety and relaxation while addressing the underlying PTSD.

4.3.7 Feeling Jumpy or Easily Startled

The respondents were asked whether they were feeling jumpy or were easily startled, to which, 187 (95.4%) reported feeling extremely jumpy or easily startled, 5 (2.6%) reported feeling moderately jumpy while 4 (2%) reported feeling jumpy quite a bit.

These results indicate a very high prevalence of heightened startle responses among individuals with substance use disorders and a history of PTSD in the selected rehabilitation centers in Nairobi County. The overwhelming majority of respondents reported extreme levels of jumpiness or being easily startled. Such heightened startle responses are common symptoms associated with hyper arousal in Post traumatic stress disorder related disorders. This finding underscores the pervasive impact of Post traumatic stress disorder on the emotional and physiological well-being of the study participants. Interventions and treatment strategies should consider addressing these symptoms, providing tools for managing hyper arousal, and creating a therapeutic environment that promotes a sense of safety and security.

4.3.8 Relationships and Social Life

The respondents were asked whether in the past month they had the above problems affecting their relationships or social life, to which 194 (99%) reported being extremely affected; 1 (0.5%) reported being moderately affected while 1 (0.5%) reported being affected quite a bit.

These results indicate an overwhelming majority of individuals with substance use disorders and a history of PTSD in the selected rehabilitation centers in Nairobi County

experienced a significant impact on their relationships or social life due to the identified problems. The extremely high percentage suggests that these issues are profoundly affecting the social functioning and interpersonal relationships of the study participants.

Understanding the social impact of PTSD related symptoms is crucial for designing holistic treatment approaches. Addressing these challenges may involve not only individual therapeutic interventions but also strategies for improving social support, communication skills, and relationship dynamics. It accentuates the need for comprehensive and integrated care that considers both the substance use disorder and the co-occurring PTSD - related symptoms.

4.3.9 Effect on Work or Ability to Work

The respondents were asked whether their traumatic situation was affecting their work or ability to work, to which 192 (98%) reported being extremely affected; 3 (1.5%) indicated to be affected quite a bit while 1 (0.5%) were moderately affected. These results suggest that a vast majority of individuals with substance use disorders and a history of PTSD in the selected rehabilitation centers in Nairobi County are experiencing severe challenges related to their work or occupational functioning due to their traumatic situations. The high percentage of extreme impact indicates the profound nature of these challenges, likely affecting productivity, performance, and overall work-related aspects.

Addressing the impact on work is crucial for comprehensive treatment planning. Interventions may need to consider vocational support, workplace accommodations, and strategies to help individuals manage the effects of PTSD on their occupational functioning. A holistic approach that integrates mental health support with vocational assistance may be essential in promoting recovery in both areas.

4.3.10 Effect on other Important Activities in Life

When the respondents were asked whether the traumatic incidence affected other important activities in life such as parenting or schooling, 196 (100%) of the respondents reported to be extremely affected. This result suggests that every participant in the study acknowledged an extreme impact on various crucial aspects of their lives beyond just work or social relationships. The PTSD has permeated into fundamental areas like parenting and schooling, emphasizing the pervasive and comprehensive effects of PTSD on multiple facets of individuals' lives.

Given the universality of the extreme impact reported by all respondents, it emphasizes the urgent need for comprehensive and tailored interventions that address the broad spectrum of challenges individuals with substance use disorders and Post traumatic stress disorder face in various life domains. It signals the importance of a holistic and integrated approach to treatment that considers the multifaceted nature of PTSD's influence on an individual's overall well-being.

4.3.11 Taking Long Time to Calm Down

The respondents were asked whether it was taking them a long time to calm down when they were upset, to which 196 (100%) reported to extremely take a long time to calm down after being upset. This result suggests that every participant in the study acknowledges an extreme difficulty in regulating their emotions and calming down after experiencing distress. Difficulties in emotional regulation are often associated with PTSD-related symptoms, indicating the pervasive impact of traumatic experiences on the emotional well-being of individuals with substance use disorders in the selected rehabilitation centers in Nairobi County.

Given the unanimous response, it underscores the urgency of incorporating effective strategies for emotion regulation and coping skills into interventions. Treatment plans should prioritize addressing these challenges to promote emotional well-being and resilience among individuals dealing with co-occurring substance use disorders and Post traumatic stress disorders.

4.3.12 Feeling Numbness or Emotionally Shut Down

The respondents were asked whether they felt numb or emotionally shut down, to which 187 (95.4%) reported feeling extremely numb or emotionally shut down, 5 (2.6%) reported being moderately numbed while 4 (2%) reported feeling numbness quite a bit.

These results indicate that a significant majority of individuals with substance use disorders and a history of PTSD in the selected rehabilitation centers in Nairobi County are experiencing extreme levels of emotional numbing or shutdown. Emotional numbness is a common response to PTSD and can impact one's ability to connect with and express emotions.

Given the high percentage of extreme numbness reported, it emphasizes the profound emotional challenges faced by the study participants. Interventions and treatment strategies should prioritize addressing emotional numbness, potentially incorporating approaches to help individuals reconnect with and express their emotions in a safe and supportive therapeutic environment.

4.3.13 Feeling like a Failure

The respondents were asked whether they felt like failures, to which 185 (94.4%) reported feeling extremely like failures, 7(3.6%) reported feeling quite a bit like failures; 3 (1.5%) moderately felt like failures while 1 (0.5%) indicated feeling a little bit like failures.

These results indicate a high prevalence of intense feelings of failure among individuals with substance use disorders and a history of PTSD in the selected rehabilitation centers in Nairobi County. The majority of respondents reported extreme levels of self-perceived failure, highlighting the impact of PTSD on self-esteem and self-worth.

Addressing these negative self-perceptions is a crucial aspect of comprehensive treatment. Interventions should incorporate strategies to enhance self-esteem, promote a positive self-image, and help individuals build a sense of accomplishment and worth. This may involve therapeutic approaches that focus on self-compassion, self-reflection, and the development of realistic and positive self-appraisals.

4.3.14 Feeling Worthless

The respondents were asked whether they were feeling worthless, to which 185 (94.4%) reported feeling extremely worthless; 9 (4.6%) reported feeling quite a bit worthless while 2 (1%) reported feeling moderately worthless. These results indicate a high prevalence of intense feelings of worthlessness among individuals with substance use disorders and a history of PTSD in the selected rehabilitation centers in Nairobi County. The majority of respondents reported extreme levels of perceived worthlessness, suggesting a significant impact on self-esteem and self-perception.

Addressing feelings of worthlessness is a crucial aspect of comprehensive treatment. Interventions should focus on building and promoting a positive sense of self-worth, self-compassion, and self-esteem. Therapeutic approaches that target these specific aspects can be beneficial in helping individuals develop a more positive and realistic self-perception.

4.3.15 Feeling Distant or Cut-Off from People

The respondents were asked whether they felt distant or cut-off from people, to which, 176 (90%) indicated feeling extremely distant or cut off from people; 14 (7%) reported feeling quite a bit distant while another 6 (3%) reported feeling moderately distant or cut off from people. The study inquired about respondents' feelings of social disconnection or isolation by asking whether they felt distant or cut off from people. These results suggest that a significant majority of individuals with substance use disorders and a history of PTSD in the selected rehabilitation centers in Nairobi County are experiencing a strong sense of social disconnection. The high percentage reporting extreme feelings of distance or isolation highlights the impact of PTSD on interpersonal relationships and social functioning.

Addressing social disconnection is an important component of comprehensive treatment. Interventions should focus on rebuilding social connections, enhancing social skills, and creating a supportive environment that encourages individuals to re-engage with others. Social support can be a critical factor in the recovery process for individuals dealing with both substances use disorders and PTSD.

4.3.16 Staying Emotionally Close to People

The study inquired whether the respondents found it hard to stay emotionally close to other people, to which 192 (98%) expressed finding it extremely hard to stay emotionally close to people; 3 (1.5%) felt quite a bit hard to stay emotionally connected with other people while 1 (0.5%) felt moderately hard to stay connected with other people.

Addressing difficulties in emotional closeness is crucial for comprehensive treatment. Interventions should focus on building trust, improving communication skills,

and fostering emotional connections in a safe and supportive therapeutic environment. Helping individuals navigate these challenges can contribute to improved interpersonal relationships and overall well-being.

4.3.17 Concern or Distress about Relationships or Social Life

The study inquired whether the symptoms of PTSD created concerns or distress about relationships or social lives among the respondents, to which 185 (94.4%) reported feeling extremely distressed about their relationships; 7 (3.6%) reported feeling quite a bit distressed while 4 (2%) reported feeling moderately distressed about their relationships and social lives.

These results indicate that a significant majority of individuals with substance use disorders and a history of PTSD in the selected rehabilitation centers in Nairobi County are experiencing extreme distress related to their relationships and social lives. The high percentage reporting extreme distress underscores the profound impact of PTSD on interpersonal relationships and social functioning.

Addressing distress about relationships is essential for comprehensive treatment. Interventions should involve therapeutic strategies to help individuals navigate and cope with the emotional challenges associated with PTSD, fostering healthier and more adaptive ways of relating to others. Building a supportive and understanding environment can contribute to the recovery process for individuals dealing with both substances use disorders and PTSD - related distress.

4.3.18 Post traumatic stress disorder Problems and their Effects on Work or Ability to Work

The study enquired whether in the past month, the above-mentioned problems affected the respondents` work or ability to work, to which 187 (95.4%) reported being extremely affected; 7 (3.6%) were moderately affected while 2 (1%) were quite a bit affected.

These results indicate that a significant majority of individuals with substance use disorders and a history of PTSD in the selected rehabilitation centers in Nairobi County experienced an extreme impact on their work or ability to work due to the identified problems. The high percentage reporting extreme impact suggests substantial challenges affecting occupational functioning, potentially influencing productivity, attendance, and overall work-related aspects.

Understanding and addressing these challenges in the workplace are crucial for comprehensive treatment. Interventions may need to consider vocational support, workplace accommodations, and strategies to help individuals manage the effects of PTSD on their occupational functioning. A holistic approach that integrates mental health support with vocational assistance can be essential in promoting recovery in both areas.

4.3.19 PTSD Incidences Affecting Important Live Activities

The study enquired from the respondents whether the above-mentioned problems resulting from traumatic incidences affected their important activities such as parenting and schooling. Some 182 (93%) reported being extremely affected, 11 (5.6%) were affected quite a bit while 3 (1.5%) were moderately affected.

These results indicate that a significant majority of individuals with substance use disorders and a history of PTSD in the selected rehabilitation centers in Nairobi County experienced extreme impact on important activities like parenting and schooling due to the identified problems. The high percentage reporting extreme impact suggests substantial challenges affecting various aspects of their daily lives, including significant roles such as parenting and engagement in educational activities.

Understanding and addressing these challenges in the context of parenting and schooling are crucial for comprehensive treatment. Interventions may need to consider family support, parenting strategies, and educational accommodations to help individuals manage the effects of PTSD on these vital aspects of their lives. A holistic approach that integrates mental health support with support for family and educational needs can contribute to a more effective recovery process. These findings are collaborated by that of Waller et al. (2016) who had established that PTSD can manifest in tangible physical distress, symptoms, and ailments, including sleep disturbances, nightmares, anxiety, depression, flashbacks, and dissociative episodes that make individuals feel detached from reality. It may also lead to paranoid thoughts, self-destructive behaviors, impulsivity, and a heightened susceptibility to substance use disorders.

4.4.1 Experience of

Table 7: Experience of traumatic events

Have you ever experienced a traumatic event in your life	**Frequency**	**Percent**
Yes	195	99.5%
No	1	.5%
Total	**196**	**100.0**

To establish the prevalence of PTSD in rehabilitation centres, the respondents were asked whether they had ever experienced a traumatic event in their lives, of which 195 (99.5%) confirmed having experienced traumatic events while 1 (0.5%) had not experienced such incidences. The high prevalence of respondents (99.5%) confirming that they have experienced traumatic events in their lives suggests that PTSD is a pervasive and prevalent factor among individuals seeking rehabilitation for substance use disorders in the selected centers in Nairobi County, Kenya.

The overwhelming majority of respondents reporting Post traumatic stress disorder highlights the importance of addressing Post traumatic stress disorder within the context of substance use disorder treatment. Post traumatic stress disorder can significantly impact the development, continuation, and recovery from substance use disorders. The high prevalence underscores the need for rehabilitation centres to incorporate Post traumatic stress disorder informed care into their treatment approaches. Understanding and addressing Post traumatic stress disorder can be crucial for effective and holistic recovery strategies.

This finding is validated by that of Farley et al. (2004) reported that a significant majority (89%) of individuals had disclosed a history of at least one traumatic event, while according to Carriere (2014), at least five hundred million individuals encountered traumatic and exposure to emotional abuse at some point in their lives.

4.4.2 Experience of Post traumatic stress disorder According to Age Distribution

Table 8: Experience of PTSD by Age Distribution

Age Distribution	Have you ever experienced a traumatic event in your life?		Total
	Yes	No	
20-29	103	1	104
30-39	76	0	76
40-49	12	0	12
50 and above	4	0	4
Total	**195**	**1**	**196**

The highest number of the respondents experiencing traumatic events came from 20-29 age group at 103 (52%), followed by those aged 30-39 years at 76 (38%), then those aged 40- 49 at 12 (6%) and the least came from that aged 50- 59 at 4 (2%).

The highest number of respondents who have experienced Post traumatic stress disorder falls within the age group of 20-29 years, with 103 respondents, constituting 52% of the total. The second-highest number is observed in the age group of 30-39 years, with 76 respondents, making up 38% of the total. There is a lower number in the age group of 40-49 years, with 12 respondents, representing 6% of the total. The least number of respondents who have experienced Post traumatic stress disorders in the age group of 50 years and above, with 4 respondents, accounting for 2% of the total.

This distribution provides insights into the age demographics of individuals who have experienced Post traumatic stress disorder in the studied population. It suggests that Post traumatic stress disorder may be more prevalent among younger adults, particularly those in their 20s and 30s, based on the higher numbers in these age groups. Understanding

the age distribution can be valuable for tailoring interventions and support services to specific age groups and addressing the unique challenges they may face in the context of PTSD and recovery.

4.4.3 Types of traumatic Events

The respondents were asked to specify the types of traumatic events they had experienced. The responses as presented as follows:

Table 9: Types of traumatic Events and situations

Specify the types of traumatic events and situations you have experienced	Frequency	Percent
Emotional	70	36%
Physical Abuse	20	10%
Disasters	6	3%
Violence	23	12%
Early childhood trauma	12	6%
Divorce/separation	2	1%
Sexual abuse	23	12%
Car Accident	39	20%
None	1	.5%
Total	**196**	**100.0**

Table 9 shows that emotional trauma emerged as the most common that was experienced according to 70(36%, followed by car accidents 39(20%), then violence 23 (12%) as well as sexual abuse at 23(12%). Others were physical abuse at 20(10%), childhood trauma 12 (6%) and divorce/separation.

The breakdown of the types of traumas experienced by respondents, as presented in Table 9, provides valuable insights into the nature and diversity of PTSD experiences within the population seeking rehabilitation for substance use disorders in the selected centers in Nairobi County, Kenya.

Emotional trauma being reported by 36% of respondents suggests that non-physical forms of trauma, such as psychological or emotional distress, are highly prevalent. Emotional trauma can have profound effects on mental health and substance use, highlighting the importance of addressing psychological well-being in rehabilitation programs.

Car accidents being reported by 20% of respondents indicate that vehicular incidents are a notable source of PTSD within the sample. It would be interesting to establish whether these car accidents were induced by substance abuse or not. The 12% reporting violence as a source of Post traumatic stress disorder underscores the significance of interpersonal violence as a contributing factor. Understanding the context and nature of violent experiences can inform targeted interventions for those affected.

The 12% reporting sexual trauma highlights the prevalence of a particularly sensitive and impactful trauma. Addressing the unique challenges associated with sexual trauma is crucial in designing Post traumatic stress disorder informed care within rehabilitation centres. The 10% reporting physical abuse signals that direct physical harm is a significant factor for a portion of the respondents. The 6% reporting childhood trauma emphasizes the lasting impact of early life experiences on mental health and substance use. Understanding how childhood trauma influences adult behaviors and substance use can guide intervention strategies.

The mention of trauma indicates that some respondents may have experienced multiple, varied traumatic events over time. Exploring the cumulative impact of Post traumatic stress disorder on recovery can guide comprehensive and individualized treatment plans.

The diverse nature of reported traumas calls for tailored interventions that address the specific challenges associated with Post traumatic stress disorder. One-size-fits-all approaches may not be as effective as personalized strategies. Integrating Post traumatic stress disorder informed care principles into rehabilitation programs is crucial. This includes creating a safe and supportive environment that acknowledges the prevalence and impact of PTSD. Given the variety of traumatic experiences, interdisciplinary collaboration involving mental health professionals, PTSD specialists, and substance use disorder experts is essential for providing comprehensive care.

4.4.3. Substance Abuse Disorder

Table 10: Substance Abuse Disorder Diagnosis

Have you been diagnosed with a substance use disorder?	**Frequency**	**Percent**
Yes	182	93%
No	14	7%
Total	**196**	**100.0**

The response to the question about whether individuals had been diagnosed with a substance use disorder provided valuable information about the self-reported prevalence of substance use disorders among the respondents in this study. The high affirmation rate suggests that a substantial majority of respondents (93%) acknowledged having been diagnosed with a substance use disorder. This high prevalence aligns with the primary focus of this study on individuals seeking rehabilitation in selected centres in Nairobi County, Kenya.

The acknowledgment of a substance use disorder diagnosis by the majority of respondents underscores the importance of studying this population to understand the

relationship between PTSD, substance use disorder, and recovery performance. The 7% who denied being diagnosed with a substance use disorder represent a smaller but noteworthy subgroup. Exploring the reasons for denial or non-disclosure may reveal insights into stigma, reluctance to admit the issue, or potential barriers to seeking formal diagnosis and treatment.

These findings paint a complex picture as observed by Cohen and Hien (2006) who noted that individuals grappling with substance use disorder often find themselves more vulnerable to traumatic events thus perpetuating a continuous cycle of Post traumatic stress disorder and an increased risk of substance abuse.

4.4.4 Diagnosis for Substance Use Disorder According to Age Distribution

Table 11: Substance Use Disorder by Age

Age Distribution		**Have you been diagnosed with a substance use disorder**		**Total**
		Yes	**No**	
Age distribution	20-29	97	7	104
	30-39	69	7	76
	40-49	12	0	12
	50 and above	4	0	4
Total		**182**	**14**	**196**

The crosstabulation for those who had been diagnosed with substance use disorder shows that majority were those aged 20 – 29 years at 97 (49%) followed by those aged 30-39 years at 69 (35%). The least numbers came from those aged 40-49 years at 12 (6%) and those aged 50 years and above at 4 (2%).

This distribution provides insights into the age demographics of individuals diagnosed with substance use disorder in the studied population. It suggests that substance

use disorder may be more prevalent among younger adults, particularly those in their 20s and 30s, based on the higher numbers in these age groups. Understanding the age distribution can be valuable for tailoring interventions and support services to specific age groups and addressing the unique challenges they may face in the context of substance use disorder.

4.4.5 Diagnosis of Substance Use Disorder according to Gender

Table 12: Substance Use Disorder by Gender

Gender Distribution		**Have you been diagnosed with a substance use disorder**		**Total**
		Yes	No	
Gender distribution	Male	94 (48%)	11 (5.6%)	105
	Female	88 (45%)	3 (1.5%)	91
Total		**182(93%)**	**14(7.1%)**	**196**

The study shows that 48% of those diagnosed with substance use disorder were males compared with 45% of females that was diagnosed with substance use disorder. Conversely, 5.6% of males had no substance disorder as well as 1.5% of males.

The study reveals a relatively balanced distribution of substance use disorder diagnoses among males and females. Specifically, 48% of the participants diagnosed with substance use disorder were males, while 45% were females. This suggests a comparable prevalence of substance use disorders in both genders within the study population.

Conversely, a smaller proportion of both males and females did not exhibit substance use disorders. Specifically, 5.6% of males and 1.5% of females were reported as not having substance use disorder diagnoses. While the majority of both genders

experienced substance use disorders, these percentages indicate a subset of individuals, irrespective of gender, who did not meet the criteria for such disorders.

These findings emphasize the importance of understanding gender patterns in substance use disorders and highlight the need for tailored interventions that consider the unique experiences and challenges faced by both males and females in the context of substance abuse and recovery.

4.5 The Rate of Relapse to Substance Use Among Clients with a History of PTSD

This objective sought to establish the rate of relapse to substance use among clients with a history of PTSD. The results of the analyses of items of this objective are presented as follows:

4.5.1 Experience of Relapse into Substance Use after a Period of Abstinence

Table 13: Experience of Relapse into Substance Use

Have you ever experienced a relapse into substance use after a period of abstinence	**Frequency**	**Percent**
Yes	192	98.0%
No	4	2.0%
Total	**196**	**100.0**

The respondents were asked whether they had ever experienced a relapse into substance use after a period of abstinence, to which 98% concurred, while 2% had a contrary opinion. The responses to the question about experiencing a relapse into substance use after a period of abstinence provide important insights into the challenges that individuals face in maintaining long-term recovery. The overwhelming majority of respondents (98%) acknowledging a history of relapse indicates that relapse is a common

and significant aspect of the recovery journey for individuals in this study population. This finding is supported by that of Kabisa, et al. (2021) who had studied the determinants and prevalence of relapse among patients with substance use disorders, and established a higher prevalence of relapse among patients with SUD (59.9 %). The high prevalence of relapse underscores the complexity of substance use disorder recovery and emphasizes the need for ongoing support and intervention strategies to address the challenges individuals may face post-abstinence.

The 2% who expressed a contrary opinion, denying a relapse, represent a small but notable subgroup. Exploring the characteristics and experiences of this group, as understanding their factors for sustained abstinence could inform positive aspects of recovery. The high prevalence of relapse suggests a critical need for comprehensive relapse prevention strategies within rehabilitation programs.

4.5.2 Triggers of the Relapse

The respondents were asked to describe the circumstances or triggers of the relapse. Table 11 presents the findings as follows:

Table 14: Relapse Triggers

Describe the circumstances or triggers of the relapse	**Frequency**	**Percent**
Negative emotions	1	.5%
Ego	1	.5%
Poor coping strategies	1	.5%
Stress, negative emotions, ego, social pressure, environment, lack of coping strategies	191	97.4%
None	2	1.0
Total	**196**	**100.0**

The study shows that 191 (97.4%) of the respondents indicated that stress, negative emotions, ego, social pressure, environment and lack of coping strategies contributed to their relapsing. Another 1(0.5%) blamed negative emotions for triggering their relapse. Another 1(0.5%) indicated that their trigger was from their ego while another 1(0.5%) blamed lack of coping strategies for triggering their relapse. However, 2 (1%) had no identifiable trigger for their relapse.

The findings indicate that a significant majority of the respondents, 97.4%, identified multiple factors contributing to their relapse, including stress, negative emotions, ego, social pressure, environment, and lack of coping strategies. This finding is supported by Hartney (2023) who had established that stress is the most common cause of a relapse. Many people who struggle with addiction turn to substance abuse as a coping mechanism. Additionally, a small percentage attributed their relapse to specific factors: 0.5% to negative emotions, 0.5% to ego, and 0.5% to a poor coping strategies. Two percent of respondents stated that there was no identifiable trigger for their relapse.

This information provides valuable insights into the complex interplay of factors influencing relapse among individuals with substance use disorders in the context of PTSD and recovery. It underscores the importance of addressing various aspects, such as stress management, emotional well-being, and coping strategies, in developing effective interventions and support systems for individuals in recovery.

4.6 The Relationship Between Perception of Safety and Sobriety among Clients with Substance Use Disorder Who Have Experienced PTSD.

This objective sought to establish the relationship between perception of safety and sobriety among clients with substance use disorder who had experienced Post traumatic

stress disorder before. The results of the analyses of items of this objective are presented as follows:

4.6.1 Safety at Workplace

Table 15 Workplace environment safety

Do you feel safe at your work place or in your current environment or living situation?	**Frequency**	**Percent**
Yes	1	.5%
No	195	99.5%
Total	**196**	**100.0**

When the respondents were asked whether they felt safe at their work place or in their current environment or living situation, 195(99.5%) indicated they did not feel safe while 1 (0.5%) reported feeling safe. This finding suggests a high level of perceived insecurity or discomfort among the respondents in their work or living environments. This finding is supported by that of Smook (2017) who studied the substance abuse and the workplace analysis. The study had established that negative attitudes of employers and colleagues towards employees with substance abuse problems leads to resistance to the problem of substance abuse. Such information could be crucial for identifying potential areas of concern and implementing interventions to improve safety and well-being, especially for individuals dealing with substance use disorders and PTSD. Understanding these feelings of unsafety may guide the development of targeted strategies to create more secure and supportive environments for those in recovery.

4.6.2 Perception of Safety

Table 16: Perception of Safety

On a scale of 1 to 10 how would rate your perception of safety in your current environment with 1 being unsafe and 10 being very safe	Frequency	Percent
1	187	95.4%
2	2	1.0%
4	2	1.0%
5	1	.5%
7	2	1.0%
9	2	1.0%
Total	**196**	**100.0**

The respondents were asked on a scale of 1 to 10 to rate their perception of safety in their current environment with 1 being unsafe and 10 being very safe. The highest number of respondents amounting to 187(95.4%) rated their perception at 1 which is being unsafe. Another 2 (1%) rated it at number 2 and 4 consecutively. Another 1(.5%) rated it number 5 while 2 (1%) rated it number 7 and 9 consecutively.

This data reinforces the notion that a significant majority of the respondents perceived their current environment as unsafe, with the highest number assigning a rating of 1. Understanding these perceptions is essential for addressing potential safety concerns and implementing measures to improve the well-being and sense of security for individuals, especially those dealing with substance use disorders and PTSD.

4.6.3 Perception of Safety and Ability to Maintain Sobriety

Table 17: Safety and Ability to Maintain Sobriety

Do you believe that your perception of safety affects your ability to maintain sobriety	Frequency	Percent
Strongly agree	183	93.4%
Agree	4	2.0%
Not sure	5	2.6%
Disagree	1	.5%
Strongly disagree	3	1.5%
Total	**196**	**100.0**

The respondents were asked whether they believed that their perception of safety affected their ability to maintain sobriety, to which 183(93.4%) strongly agreed and another 4 (2%) agreed, making a total of 187(95.4%) that concurred. This was against 1(0.5%) who disagreed while 3(1.5%) strongly disagreed, making a total of 4(2%) that disproved that perception of safety affected their ability to maintain sobriety. However, 5(2.6%) were not sure.

The overwhelming majority of respondents (95.4%) believe that their perception of safety has a significant impact on their ability to maintain sobriety. Only a small minority (2%) disagrees with this idea, and a few respondents (2.6%) express uncertainty on the matter.

These findings suggest that, according to the surveyed individuals, feeling safe is closely linked to their ability to stay sober. This insight could have implications for interventions, treatment programs, or support systems in addressing substance abuse issues by considering the importance of creating a safe environment for individuals in recovery.

4.6.4 Treatment for Substance Use Disorder and PTSD History

Table 18: Treatment for substance use disorder and PTSD history

Are you currently receiving any treatment or therapy for your substance use disorder and PTSD history	Frequency	Percent
Yes	196	100.0

The respondents were asked whether they were currently receiving any treatment or therapy for their substance use disorder and PTSD, to which 196 (100%) indicated they were receiving treatment or therapy for substance use disorder and PTSD. The research findings in this case indicate that all 196 respondents are currently receiving treatment or therapy for both substances use disorder and PTSD.

This result suggests that the entire surveyed population is actively engaged in seeking professional help for their substance use disorder and PTSD-related issues. The unanimous response implies a high level of awareness and willingness among the respondents to address and manage both substance abuse and PTSD concurrently. The findings may have implications for the understanding of the prevalence of treatment-seeking behavior among individuals dealing with these specific challenges and may inform the development or improvement of support services and interventions.

4.7 Intervention Strategies for Treatment of Clients with Substance Use Disorder as well as Post traumatic stress disorder

The study sought to explore possible intervention strategies for treatment of clients with substance use disorder and post traumatic stress disorder. The results of the analyses of items of this objective are presented as follows:

4.7.1 Types of Treatment

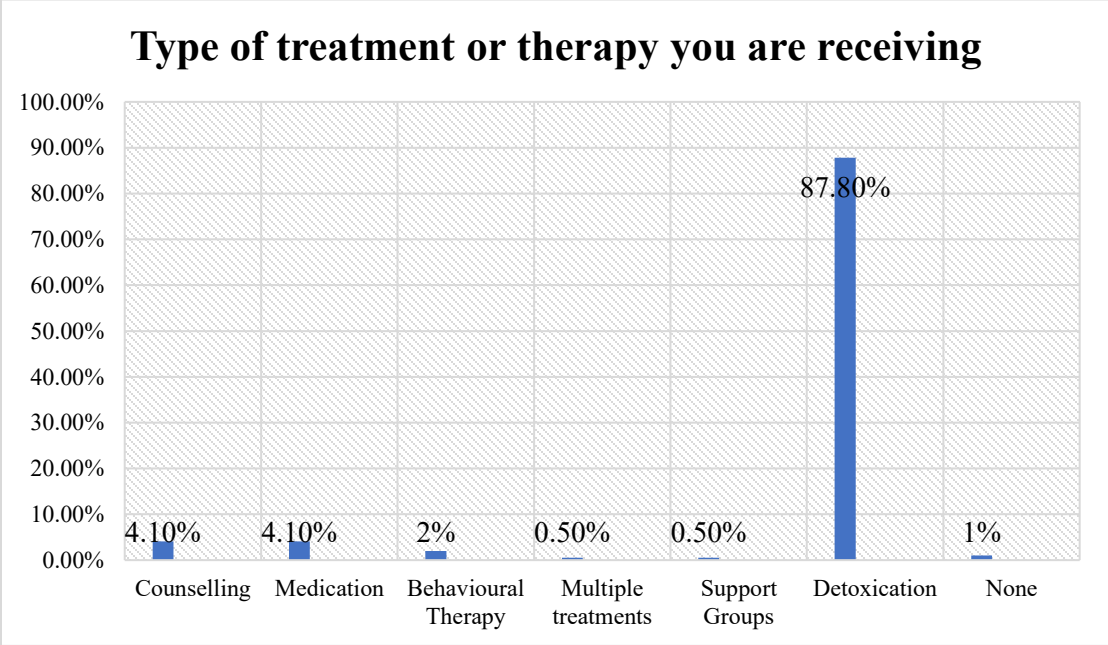


Figure 4: Types of treatment

When the respondents were asked about the kind of treatment that they were receiving, 172 (88%), pointed out that they were receiving detoxification treatment. Another 8(4%) indicated that they were receiving counselling and another 8(4%) highlighted to be receiving medication. Those receiving behavioral therapy were 4(2%), while those using support groups were 1 (0.5%). However, there was another 2(1%) that were not receiving any treatment.

The majority of the respondents (88%) reported using detoxification. This suggests that most of them had reached addiction levels. Those on counselling alone accounted for a small percentage (4%), which emphasizes the importance of therapeutic conversations in their treatment. Those receiving medication (4%) highlights the importance of pharmacological aspect of their treatment plan. Those on behavioral therapy (2%) suggests a focus on modifying behaviors related to substance use. The use of multiple treatments and support groups at (0.5%) respectfully, showcases the diverse treatment methods used. The (1%) that is not receiving any treatment calls for more probing to understand the reason behind so as to provide additional insights into barriers to accessing treatment.

The high percentage of respondents receiving detoxication treatments suggests that most of the clients had reached substance addiction levels. However, minimal use of variety of treatment modalities signifies that most of the rehabilitation centers were not offering a combination of approaches which may be necessary for effective intervention to address the complexity of substance use disorders. Overall, these insights address critical aspects of Post traumatic stress disorder and recovery among individuals with substance use disorders.

4.7.2 Effective Intervention Strategies

Table 19: Effective Intervention Strategies

What in your opinion could be the most effective intervention strategies for individuals with substance use disorder who have experienced Post traumatic stress disorder	Frequency	Percent
Counselling	27	14%
Medication	5	2%
Behavioral therapy	10	5%
Counselling, medication, behaviour therapy, detoxification, support groups	154	79%
Total	**196**	**100.0**

The respondents were asked to indicate their perception on the most effective intervention strategies for individuals with substance use disorder who had experienced Post traumatic stress disorder, to which the majority 154(79%) suggested a multiple of intervention strategies that included counselling, medication, behaviour therapy, detoxification and support groups. They were followed by 27(14%) who opted for counselling while behaviour therapy accounted for 10 (5%), while 5 (2%) suggested the use of medication.

The findings from the respondents regarding the perceived effectiveness of intervention strategies for individuals with substance use disorder who have experienced Post traumatic stress disorder reveal several noteworthy patterns. For instance, a substantial majority, comprising 79% of the respondents, expressed a preference for a combination of intervention strategies. This includes counseling, medication, behavioral therapy, detoxification, and support groups. This suggests a widespread acknowledgment among

respondents that a comprehensive and multifaceted approach is considered most effective in addressing the complex challenges associated with both substances use disorders and post traumatic stress disorder.

While the majority favored multiple strategies, 14% of respondents specifically pointed out counseling as their preferred intervention. This highlights the significance of therapeutic conversations in the recovery process for individuals with a history of Post traumatic stress disorder and substance use disorder. It suggests that some individuals may perceive counseling as a primary and effective standalone intervention. Behavioral therapy was chosen by 5% of respondents, signaling an awareness of the importance of addressing and modifying specific behaviors associated with substance use disorders and Post traumatic stress disorder. This recognition suggests that some respondents believe that behavioral therapy plays a crucial role in the recovery process. A smaller percentage, 2% of respondents, specifically recommended the use of medication as an intervention strategy. This indicates that while medication might not be the primary choice for the majority, there is still recognition of its potential role in supporting individuals dealing with both substances use disorders and post traumatic stress disorder.

The preference for a combination of intervention strategies aligns with the idea that a comprehensive and tailored treatment plan is perceived as more effective.

The relatively lower emphasis on medication suggests that respondents may view it as a supplementary rather than a primary intervention. Understanding the reasons behind this perspective can provide insights into the perceptions and preferences of individuals undergoing treatment. The findings suggest that there is a diverse range of beliefs and preferences regarding effective intervention strategies, emphasizing the need for

individualized and person-centered approaches in addressing substance use disorders and post-traumatic stress disorder.

In summary, these findings indicate a recognition among respondents that a combination of counseling, medication, behavioral therapy, detoxification, and support groups is perceived as the most effective approach for individuals with substance use disorder who have experienced Post traumatic stress disorder.

4.7.3 Simultaneous Treatment of both substances use disorder and post-traumatic stress disorder

Table 20: Treating both substances use disorder and PTSD

How important is it for treatment programs to address both substances use disorder and PTSD simultaneously?	**Frequency**	**Percent**
Very important	190	96.9%
Important	6	3.1%
Total	**196**	**100.0**

The respondents were asked how important it was for treatment programs to address both substances use disorder and PTSD simultaneously, to which 190 (97%) indicated that it was very important while 6(3%) said it was important. The findings regarding the importance of simultaneously addressing both substances use disorder and PTSD in treatment programs reveal a strong consensus among the respondents. A vast majority, accounting for 97% of the respondents, expressed that addressing both substances use disorder and PTSD simultaneously in treatment programs was deemed "very important." This overwhelming consensus suggests a high level of agreement among the

surveyed individuals on the crucial nature of integrating treatment for substance use disorder and PTSD.

While the majority expressed that it was "very important," a small percentage (3%) still acknowledged the importance of addressing both aspects, albeit with the qualifier "important." Even within this minority, there is recognition that simultaneously addressing substance use disorder and PTSD is a vital component of effective treatment programs.

The findings strongly support the idea that there is a widespread belief among respondents that a holistic and integrated approach to treatment, addressing both substances use disorder and PTSD, is essential. The high percentage indicating that it is "very important" suggests an understanding among respondents of the interconnected nature of substance use disorder and post-traumatic stress disorder. This recognition may stem from the understanding that these issues often coexist and mutually influence one another. Treatment programs and interventions that fail to address both substances use disorder and post-traumatic stress disorder simultaneously might be viewed as incomplete or less effective. This emphasizes the need for comprehensive and integrated treatment strategies. The strong consensus on the simultaneous treatment of both issues may indicate that respondents believe such an approach could lead to improved treatment outcomes, addressing the root causes and contributing factors of both substances use disorder and Post traumatic stress disorder. These findings have implications for clinical practices and policy decisions in the field of substance use disorder treatment. They underscore the importance of incorporating PTSD informed care into substance use disorder treatment programs.

In summary, the findings suggest a clear and unified perspective among respondents on the critical importance of treatment programs addressing both substances

use disorder and PTSD simultaneously. This consensus underscores the need for a holistic and integrated approach to effectively address the complex challenges associated with these issues.

\4.7.4 How to Tackle Substance Use Disorder to Individuals with Post traumatic stress disorder History

Table 21: Tackling substance use disorder on individuals with a history of PTSD

Insights on how to tackle the problem of substance use disorder to individuals with a history of PTSD	Frequency	Percent
Early intervention	1	.5%
Education and awareness	2	1.0%
Counselling and therapy	1	.5%
Combination of early interventions, education & awareness, counselling & therapy, treatment, community support and peer support groups	192	98.0%
Total	**196**	**100.0**

The respondents were requested to give insights into what need to be done according to their journey with substance use disorder and post traumatic stress disorder history. The highest number amounting to 192 (98%) highlighted the need for early interventions, education, awareness, counselling, therapy, treatment, community support and peer support groups. They were followed by those who suggested the use of education and awareness 2(1%), while those who suggested early intervention and counselling and therapy were 1 (0.5%) respectfully.

These responses provided by the participants regarding what needs to be done based on their journey with substance use disorder and post traumatic stress disorder history convey important insights into their perceived priorities and requirements. The majority of respondents, amounting to 98%, emphasized the importance of early interventions. This indicated a recognition among participants that addressing substance use disorder and post traumatic stress disorder early is crucial for successful outcomes. The respondents also highlighted the need for education and awareness. This accentuates the importance of informing individuals, communities, and potentially even healthcare professionals about the interconnected issues of substance use disorder and post traumatic stress disorder. This suggests a desire for broader societal understanding and support. The inclusion of counseling and therapy in the respondents' suggestions points to the significance of mental health support. This aligns with the recognition that addressing the psychological aspects of PTSD is integral to the recovery process.

The mention of treatment indicates a perceived need for structured and comprehensive treatment programs that address both substances use disorder and PTSD concurrently. The inclusion of community and peer support emphasizes the importance of social connections and shared experiences in the recovery journey. This suggests a desire for a supportive network that extends beyond professional interventions. A small percentage of respondents reiterated the importance of education and awareness, perhaps underscoring the need for ongoing efforts in this area. The suggestions for early intervention and counseling and therapy, even though expressed by a minority, still indicate the recognition of these specific elements in the recovery process.

The prevalence of themes like early intervention, education, awareness, counseling, therapy, treatment, and support groups suggests that respondents perceived the need for a holistic approach that addresses various facets of substance use disorder and Post traumatic stress disorder. The emphasis on education and awareness indicates a desire for empowerment through knowledge, both for individuals dealing with these issues and for the broader community.

The recognition of the importance of community and peer support suggests a desire for connection and shared experiences, highlighting the potential impact of social support on the recovery journey. The findings have implications for the development of policies and programs that prioritize early interventions, education, and a multifaceted support system to address the complex interplay of substance use disorder and PTSD.

In summary, the respondents' suggestions highlight the importance of early interventions, education, awareness, counseling, treatment, and support networks in addressing substance use disorder and post traumatic stress disorder. These insights can inform the development of more effective and comprehensive strategies for supporting individuals on their recovery journeys.

4.8 Relationship between Sobriety, Relapse, Substance Use Disorder and PTSD

Relationship between sobriety, relapse, substance use disorder and PTSD.		**Relapse**	**Substance use disorder**	**PTSD**
Sobriety	Pearson Correlation	.010	.020	.005
	N	196	196	196

The Pearson correlation coefficient for the relationship between Sobriety or recovery performance and relapse scored (r =.010); relationship between sobriety and substance use disorder scored (r= .020) while relationship between sobriety and PTSD scored (r = .005).

The Pearson correlation coefficients measures the strength and direction of linear relationships between different variables. The relationship between sobriety or recovery performance and relapse scored a correlation coefficient (r) is 0.010, indicating a weak positive correlation. This suggests that there is a very slight tendency for higher scores on sobriety or recovery performance to be associated with slightly higher scores on relapse, but the relationship is very weak.

On the relationship between sobriety and substance use disorder, the correlation coefficient (r) is 0.020, indicating a weak positive correlation. This suggests that there is a very slight tendency for higher scores on sobriety to be associated with slightly higher scores on substance use disorder. The coefficient is close to zero, indicating little to no linear relationship between sobriety and substance use disorder.

On the relationship between sobriety and PTSD, the correlation coefficient (r) is 0.005, indicating an extremely weak positive correlation. This suggests that there is a very slight tendency for higher scores on sobriety to be associated with slightly higher scores on PTSD, but the relationship is very weak. In summary, based on the findings, there are extremely weak positive correlations between sobriety or recovery performance and relapse, substance use disorder, and PTSD. However, the strength of these correlations is so minimal that it suggests little to no practical or meaningful linear relationship between these variables in the studied sample.

4.9 Cross tabulation between PTSD and Safety

Table 22: Cross tabulation between PTSD and Safety

Have you ever experienced PTSD in your life * Do you feel safe at your work place or in your current environment or living situation Cross tabulation				
PTSD		Do you feel safe at your workplace or in your current environment or living situation?		Total
		Yes	No	
Have you ever experienced PTSD in your life	Yes	180	14	194
	No	1	0	1
Total		**181**	**14**	**195**

The cross tabulation showing the relationship between PTSD and safety indicated that 180 respondents answered "Yes" to experiencing PTSD as well as feeling safe at their workplace while 14 answered "No," which is an indication of not feeling safe about their current situation. This suggests a pattern where those experiencing PTSD conditions were also experiencing a sense of safety current situation. This finding is collaborated by that their self-reporting during treatment, where they reported feeling safe during the treatment period. The cross tabulation suggests that there is a connection between experiencing PTSD and perceiving one's environment as unsafe. The majority of respondents who experienced PTSD (180 out of 195) also reported feeling safe (answering "Yes" to safety), while a smaller number (14) did not feel safe.

The findings suggest a complex relationship between PTSD and perception of safety. While it might be expected that experiencing PTSD would lead to a heightened sense of danger or lack of safety, the majority of respondents who experienced PTSD also reported feeling safe in their current situation. This indicates that individuals can hold conflicting feelings or perceptions about safety despite experiencing PTSD.

The fact that the majority of respondents who experienced PTSD also reported feeling safe at their workplace could suggest the presence of coping mechanisms or protective factors within the workplace environment. These factors might include supportive colleagues, organizational policies promoting safety, or effective management practices that contribute to a sense of security despite external challenges.

4.10 Cross tabulation between PTSD and Sobriety

Table 23: Cross tabulation between PTSD and Sobriety

Cross tabulation between PTSD and sobriety			**Total**
	Yes	**No**	
Have you ever experienced PTSD in your life?	182	14	**196**
Sobriety	13	174	**187**

The cross tabulation between PTSD and sobriety was conducted, whereby, 182 respondents answered “Yes” to experiencing PTSD while 14 respondents answered “No.” Similarly, 174 respondents answered “No” to experiencing sobriety and 13 answered “Yes” to experiencing sobriety as it was their first time in treatment.

The cross tabulation results suggest that a larger proportion of the respondents in the study experienced PTSD, with 182 answering "Yes" compared to 14 answering "No." On the other hand, a smaller proportion experienced sobriety (first time treatment.), with 174 answering "No" compared to 13 answering "Yes."

The study implies that a significant proportion of the respondents within these rehabilitation centers have experienced PTSD, while a smaller number of respondents have reported experiencing sobriety (as it was the first time treatment). This finding suggests the importance of addressing PTSD as a significant factor in the rehabilitation process to increase sobriety among patients

CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter presents the summary of findings, conclusions, and recommendations. The summary of findings is based on the research objectives. The chapter also offers suggestions for further research.

5.1 Summary of the Study

The purpose of this study was to investigate the relationship between Post traumatic stress disorder and recovery performance among clients with substance use disorders in selected rehabilitation centers in Nairobi County. The study was guided by these objectives: To assess the prevalence of PTSD among clients with substance use disorder; To establish the rate of relapse to substance use among clients with a history of PTSD; To determine the relationship between perception of safety and sobriety among clients with substance use disorder who have experienced PTSD and to explore possible intervention strategies for treatment of clients with substance use disorder who have experienced PTSD.

A literature review was also conducted at global, to regional to national to local levels. From the reviewed literature, knowledge gaps were identified that needed to be filled by the present study.

The study employed a correlational research design. The target population was 100000 from where a sample of 200 was drawn. Self-administered questionnaires were used to collect primary data while Statistical Program for Social Sciences (SPSS) version 26 was used to get descriptive statistics. This chapter discusses the findings of the study and offers some recommendations as follows:

5.2 Summary of the Findings

5.2.1 Prevalence of Post Traumatic Stress Disorder among Clients with Substance Use Disorder

The study revealed that there was a high prevalence of Post traumatic stress disorder among clients with substance use disorder in the selected rehabilitation centers in Nairobi County. The high prevalence of respondents (99.5%) confirmed that many clients were experiencing PTSD in their lives which is an indication that PTSD was a pervasive and prevalent factor among individuals seeking rehabilitation for substance use disorders in the selected centers in Nairobi County. The most common type of trauma experienced included emotional trauma (36%), followed by car accidents at 39(20%), then violence at 23 (12%) as well as sexual trauma at 23(12%).

Among these, (93%) of the clients were diagnosed with a substance use disorder. The most affected by substance use disorder were males (48%) aged 20-29 years (49%) followed by those aged 30-39 years (35%). The findings from this study point to a multifaceted and pervasive impact of PTSD on individuals with substance use disorders in selected rehabilitation centers in Nairobi County. These findings also suggest a strong correlation between Post traumatic stress disorder and substance use disorders among individuals seeking rehabilitation. The demographic patterns also provide insights into the specific groups that may be more vulnerable to these issues.

5.2.2 The Rate of Relapse to Substance Use Among Clients with a History of PTSD

The study findings established a high rate of relapse (97%) which underscores the complexity of substance use disorder recovery and emphasizes the need for ongoing support and intervention strategies to address the challenges individuals may face post-treatment. The high rate of relapse suggests a critical need for comprehensive relapse prevention strategies within rehabilitation programs.

The findings indicate that a significant majority of the respondents, 97.4%, identified multiple factors contributing to their relapse, including stress, negative emotions, ego, social pressure, environment, lack of aftercare, and poor coping strategies.

5.2.3 The Relationship Between Perception of Safety and Sobriety Among Clients with Substance Use Disorder Who Have Experienced Post traumatic stress disorder

The study established that there was a high level of perceived insecurity or discomfort among the respondents in their workplace or living environments as indicated by (99.5%) of the respondents. This was reinforced by 95.4% of the respondents who perceived their environment to be unsafe. The findings indicated that 95.4% of the respondent believed that feeling safe was closely linked to their ability to stay sober. The findings indicated that the entire surveyed population (100%) is actively engaged in seeking professional help for their substance use disorder and PTSD related issues.

5.2.4 Possible Intervention Strategies for Treatment of Clients with Substance Use Disorder Who Have Experienced Post traumatic stress disorder.

The study findings established that the majority of the respondents (88%) were using detoxification treatment, followed by 8(4%) that were receiving counseling and another 8(4%) that were receiving medication. Those receiving behavioral therapy were 4(2%), while those receiving a combination of multiple treatments, including counseling, medication, behavioral therapy, detoxification, and support groups were 1 (0.5%) each. The high percentage of respondents who were undergoing detoxification suggests a high number of respondents who had reached addiction levels.

The study established that 79% of the respondents suggested that the most effective intervention strategies for individuals with substance use disorder who had experienced PTSD should be the use of multiple intervention strategies that included counseling, medication, behaviour therapy, detoxification, and support groups. This suggests that a comprehensive and multifaceted approach is considered most effective in addressing the complex challenges associated with both substance use disorders and PTSD. Similarly, 97% suggested preferring treatment programs that address both substance use disorder and PTSD history simultaneously. This reinforces the importance of integrating treatment for substance use disorder and Post traumatic stress disorder.

5.3 Conclusion

The study concludes that there is a high prevalence of PTSD (99.5%) among individuals with substance use disorders in selected rehabilitation centers in Nairobi County. Emotional trauma emerges as the most prevalent, followed by car accidents, violence, and sexual abuse. Notably, 93% of clients diagnosed with substance use disorder

have experienced PTSD, emphasizing the interconnectedness of these issues. The demographic insights highlight that male aged 20-29 and 30-39 are particularly affected. These results emphasize the urgent need for tailored interventions addressing both Post traumatic stress disorder and substance use disorders in this population.

The study also concludes that there is a high relapse rate of 97% among the respondents, emphasizing the complexity of substance use disorder recovery. This underscores the necessity for ongoing support and intervention strategies post-treatment. The findings indicate that 97.4% of respondents identified various factors contributing to relapse, including stress, negative emotions, social pressure, and poor coping strategies. This highlights the multifaceted nature of relapse triggers and underscores the critical importance of comprehensive relapse prevention strategies within rehabilitation programs.

The study also concludes that there is a strong link between perceived insecurity or discomfort in living or work environments and substance use disorder recovery. Almost all respondents (99.5%) reported a high level of perceived insecurity, and 95.4% perceived their environment as unsafe. The findings indicate that feeling safe is closely tied to maintaining sobriety for 95.4% of respondents. This highlights the crucial role of creating safe and supportive environments in the recovery process. Additionally, the fact that the entire surveyed population (100%) is actively seeking professional help accentuates the commitment to addressing both substance use disorder and post traumatic stress disorder-related issues.

The study concludes that a majority of respondents (88%) were undergoing detoxification, counseling (4%) and medication (4%). The minimal use of a multifaceted approach (0.5%) is a cause for concern as the treatment needs to be holistic to effectively

deal with the complexity of substance use disorders and post traumatic stress disorder. The need for the use of a multifaceted approach was suggested by 79% of respondents who endorsed the use of counseling, medication, behavior therapy, detoxification, and support groups. This aligns with the idea that addressing the intricate challenges of substance use disorders and PTSD requires comprehensive and integrated strategies. Additionally, 97% prefer treatment programs that address both substances use disorder and PTSD simultaneously, emphasizing the importance of a coordinated approach in addressing these interconnected issues.

5.4 Recommendations

Based on the conclusions drawn from the study, several specific recommendations can be made to address the intricate interplay of Post traumatic stress disorder and substance use disorders in individuals seeking rehabilitation. These recommendations span intervention strategies, relapse prevention, perception of safety, and holistic treatment approaches and a need to: -

I. Implement integrated intervention strategies that address both PTSD and substance use disorders simultaneously.
II. Develop and implement gender-sensitive interventions, given the higher prevalence of substance use disorders in males.
III. Design and integrate comprehensive relapse prevention programs within rehabilitation centers to address the high relapse rate (97%).
IV. Encourage ongoing counselling, support groups, coping skills development, and address underlying triggers for substance use. Tailoring interventions

based on individualized assessments can enhance the effectiveness of relapse prevention efforts.

V. The acknowledgment of relapse by the majority highlights the importance of extending support beyond the initial rehabilitation period. Aftercare programs, ongoing counselling, and community support can contribute to sustained recovery.

VI. Create and maintain safe and supportive environments considering the high level of perceived insecurity reported by respondents. It's important to tailor interventions to address the specific concerns related to safety and comfort in living and work environments. Incorporating programs that empower individuals to build coping mechanisms and resilience in the face of perceived insecurity is critical.

VII. Advocate for a holistic and multifaceted approach to treatment that recognizes the interconnected nature of substance use disorders and PTSD. It's important to encourage the continued use of a combination of treatments, as reported by the majority of respondents (88%), to address the diverse needs of individuals in rehabilitation. Similarly, there is need to develop treatment programs that simultaneously target substance use disorders and PTSD, aligning with the preferences of 97% of respondents.

VIII. Tailor intervention strategies to specific demographic groups, particularly focusing on males aged 20-29 and 30-39 who were identified as the most affected by substance use disorders.

Implementing these recommendations can contribute to more effective and tailored rehabilitation programs for individuals with co-occurring Post traumatic stress disorder and substance use disorders in Nairobi County.

5.5 Suggestion for Further Studies

Building on the insights gained from the current study, further research can explore additional dimensions of PTSD and substance use disorders in rehabilitation settings. Here are some suggestions for future studies:

1. Conduct longitudinal studies to track the long-term outcomes of individuals with co-occurring PTSD and substance use disorders, including relapse rates, changes in PTSD symptoms, and overall well-being.
2. Evaluate the effectiveness of specific intervention components, such as counseling, medication, behavioral therapy, and support groups, in isolation and in combination, to identify the most impact full elements for different individuals.
3. Conduct gender-specific studies to explore variations in the prevalence, experiences, and outcomes of PTSD and substance use disorders, providing insights into tailored interventions for men and women.
4. Examine the role of peer support in trauma recovery and addiction rehabilitation, including the impact of peer-led interventions on reducing relapse rates and enhancing overall recovery outcomes.

REFERENCES

Aldridge, S. (2014). *A short introduction to counselling.* Sage.

Amaro, H., Chernoff, M., Brown, V., Arévalo, S., & Gatz, M. (2007). Does integrated PTSD-informed substance abuse treatment increase treatment retention? *Journal of Community Psychology, 35*(7), 845-862.

Andrews, F. M., & Withey, S. B. (1976). *Social indicators of wellness.* New York: Plenum Press.

Argote, L., & Greve, H. R. (2007). A behavioral theory of the firm—40 years and counting: Introduction and impact. *Organization Science, 18*(3), 337-349.

Beck, A. T. (1976). *Cognitive therapy and the emotional disorders.* International Universities Press.

Burns, D. D. (1989). *The feeling good handbook.* William Morrow.

Brown, V. B., Harris, M., & Fallot, R. (2013). Moving toward a PTSD-informed practice in addiction treatment: A collaborative model of agency assessment. *Journal of Psychoactive Drugs, 45*(5), 386-393.

Cadiz, S., Savage, A., Bonavota, D., Hollywood, J., Butters, E., Neary, M., & Quiros, L. (2005). The portal projects. *Alcoholism Treatment Quarterly, 22*(3-4), 121-139.

Cohen, L. R., & Hien, D. A. (2006). Treatment outcomes for women with substance abuse and PTSD who have experienced complex trauma. *Psychiatric Services, 57*(1), 100-106.

Diener, E. (2000). Subjective wellbeing: The science of happiness and a proposal for a national index. *American Psychologist, 55*(1), 34–43.

DSM-5. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). American Psychiatric Association.

Ferentz, L. (2015). *Treating self-destructive behaviors in PTSD survivors: A clinician's guide.* Routledge.

Freeman, A., Simon, K. M., Beutler, L. E., Arkowitz, H., & Scogin, F. (1990). *Comprehensive casebook of cognitive therapy.* Plenum Press.

Frey, B. S., & Stutzer, A. (2002). *Happiness and economics.* Princeton, N.J.: Princeton University Press.

Funk, J. B., Wilson, J. P., & Chesney, S. A. (2013). Coping with trauma and post-traumatic stress disorder. In P. M. Lehrer, R. L. Woolfolk, & W. E. Sime (Eds.), *Principles and practice of stress management* (3rd ed., pp. 317-349). The Guilford Press.

Gavetti, G. (2012). Behavioral theory. In K. G. Smith & M. A. Hitt (Eds.), *Great Minds in Management: The Process of Theory Development* (pp. 1-29). Oxford University Press.

Gone, J. (2009). A community-based treatment for Native American historical PTSD: Prospects for evidence-based practice. *Journal of Consulting and Clinical Psychology, 77*(4), 751-762.

Grossman, F. K., Spinazzola, J., Zucker, M., & Hopper, E. (2017). *Treating adult survivors of severe childhood abuse and neglect: Further development of an integrative model.* In P. M. Barrett, L. M. Megrick, & J. J. Fode (Eds.), *Handbook of child abuse research and treatment* (pp. 335-367). Springer.

Haller, M., & Chassin, L. (2014). Risk pathways among traumatic stress, post traumatic stress disorder symptoms, and alcohol and drug problems: A test of four hypotheses. *Psychology of Addictive Behaviours, 28*(3), 841-851.

Hien, D., Jiang, H., Campbell, A., Hu, M., Miele, G., Cohen, L., & Nunes, E. (2010). Do treatment improvements in PTSD severity affect substance use outcomes? A secondary analysis from a randomized clinical trial in NIDA's clinical trials network. *American Journal of Psychiatry, 167*(1), 95-101.

Hopper, E., Bassuk, E., & Olivet, J. (2010). Shelter from the storm: PTSD-informed care in homeless services settings. *The Open Health Services and Policy Journal, 3*(1), 80-100.

Human, C. (2024). Strengths and limitations of CBT. *M1 Psychology*. https://m1psychology.com/strengths-and-limitations-of-cbt/

Indravan, A. (2013). Incidence and prevalence. *Current Medicine Research and Practice, 3*(1), 38-41.

Jester, J., Steinberg, D., Heitzeg, M., & Zucker, R. (2015). Coping expectancies, not enhancement expectancies, mediate PTSD experience effects on problem alcohol use: A prospective study from early childhood to adolescence. *Journal of Studies on Alcohol and Drugs, 76*(5), 781-789.

Kabisa, E., Biracyaza, E., Habagusenga, J. d., et al. (2021). Determinants and prevalence of relapse among patients with substance use disorders: Case of Icyizere Psychotherapeutic Centre. *Substance Abuse Treatment, Prevention, and Policy, 16*(13). https://doi.org/10.1186/s13011-021-00347-0

Keyes, C. L. M. (2002). *The mental health continuum: From languishing to flourishing in life.* J Health Soc Res;43(6):207-222.

Khoury, L. (2010). *Complex PTSD and addiction.* In J. F. Solomon & A. Siegel (Eds.), *Healing PTSD* (pp. 169-182). Springer.

Kolk, B. A. (2015). *The body keeps the score: Brain, mind, and body in the healing of PTSD.* Penguin Books.

López, T., Hu, M., Papini, S., Ruglass, L., & Hien, D. (2015). Pathways to change: Use trajectories following trauma-informed treatment of women with co-occurring post-traumatic stress disorder and substance use disorders. *Drug and Alcohol Review*, 34(1), 242-251.

McHugo, G., Caspi, Y., Kammerer, N., Mazelis, R., Jackson, E., Russell, L., & Kimerling, R. (2005). The assessment of PTSD history in women with co-occurring substance abuse and mental disorders and a history of interpersonal violence. *Journal of Behavioral Health Services & Research, 32*(2), 113-127.

Moe, F. D., Moltu, C., McKay, J. R., Nesvåg, S., & Bjørnestad, J. R. (2021). Is the relapse concept in studies of substance use disorders a 'one size fits all' concept? A systematic review of relapse operationalization. *Drug and Alcohol Review.*

Ministry of Health Report (2017). The national Protocol for Treatment of Substance use Disorders in Kenya. Government Printer.

National Association for Children of Addiction. (2007). *Understanding Abstinence, Sobriety, and Recovery*. National Association for Children of Addiction.

Njenga, S. N. (2008). *Healing PTSD: A counseling manual for helping children recover from wounds of ethnic violence*. Malmart Publishers.

Omollo, M. (2015). *The role of traumatic life events in the addiction process among patients at the Mathari drugs rehabilitation centre*. Unpublished Master's degree project. University of Nairobi Library repository.

Perrotta, G. (2019). Psychological trauma: Definition, clinical contexts, neural correlations, and therapeutic approaches. *Recent Discoveries*. *Current Research in Psychiatry and Brain Disorder: CRPBD-100006*.

Potthast, N., & Catani, C. (2012). Trauma and addiction: Implications for psychotherapy. *Addiction Journal Quarterly, 58*(4), 227-236.

Ryff, C. D., & Keyes, C. L. M. (1995). The structure of psychological wellness revisited. *Journal of Personality and Social Psychology, 69*(4), 719–727.

Salkovskis, P. M. (1996). *Cognitive-behavioral approaches to the understanding of obsessional problems.* In M. Mavissakalian & R. F. Prien (Eds.), *Long-term treatments of anxiety disorders* (pp. 325-346). American Psychiatric Association.

Shields, J., Delany, P., & Smith, K. (2015). Factors related to the delivery of PTSD services in outpatient treatment programs. *Journal of Social Work Practice in the Addictions, 15*(1), 114-129.

Sindan, B. (2006). *The refugee PTSD and its effects on future hopes*. Unpublished Master's degree project. University of Nairobi Library repository.

Smyth, N., & Greyber, L. (2013). Trauma-informed practice. In B. Thyer, C. Dulmus, & K. Sowers (Eds.), *Developing evidence-based generalist practice skills* (1st ed., pp. 25-50). Hoboken, NJ: Wiley.

Teresia, N. (2021). *Research methodology for students of social sciences*. Utafiti Foundation.

Waweru, M., Ngumi, O., & Mumiukha, C. (2018). Relationship between recovering alcoholics. Characteristics and developments competencies in rehabilitation facilities in Central and Nairobi regions. *African Journal of Alcohol and Drug Abuse, 1*(1).

Waller, G., Deeley, Q., & Morrison, D. (2016). The use of imagery in cognitive therapy. In M. K. Halgin & S. G. Ray (Eds.), *Cognitive-behavioral theories of counseling* (pp. 389-412). Routledge.

Wiechelt, S. (2014). Intersections between PTSD and substance misuse: Implications for PTSD-informed care. In S. Straussner (Ed.), *Clinical work with substance-abusing clients* (3rd ed., pp. 179-201). New York, NY: Guilford.

Wolf, M., Nochajski, T., & Farrell, M. (2015). The effects of childhood sexual abuse and other PTSD on drug court participants. *Journal of Social Work Practice in the Addictions, 15*(1), 44-65.

World Drugs Report. (2018). *Drugs and age; Drugs and associated issues among young people and older people*. United Nations Publications.

World Drugs Report. (2020). *Drugs and age; Drugs and associated issues among young people and older people*. United Nations Publications.

Van Ees, H., Van Der Voet, J., & De Lange-Ros, P. (2009). Behavioral theory and systems thinking: Theoretical synergies through system dynamics modeling. *Systems Research and Behavioral Science, 26*(4), 401-416.

Appendix

Appendix 1: Research permit

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

Ref No: 888570

Date of Issue: 22/December/2023

RESEARCH LICENSE

This is to Certify that Ms.. Margaret Muthoni Njoroge of Africa Nazarene University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Nairobi on the topic: RELATIONSHIP BETWEEN TRAUMA AND RECOVERY PERFORMANCE AMONG CLIENTS WITH SUBSTANCE USE DISORDERS IN SELECTED REHABILITATION CENTRES IN NAIROBI COUNTY, KENYA for the period ending : 22/December/2024.

License No: NACOSTI/P/23/32151

888570

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

Verification QR Code

NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.

See overleaf for conditions

Appendix 2: Introductory Letter from ANU

AFRICA NAZARENE
UNIVERSITY

P.O.Box: 53067 – 00200
Nairobi, Kenya.
Tel: 020 252 7170/1 – 5
Email: vc@anu.ac.ke
www.anu.ac.ke

file:///Users/wilearn/Downloads/defence dec 8th 23/Introductory Letter.pdf

6th December 2023

RE: TO WHOM IT MAY CONCERN

Njoroge Margaret (18S03DMCP007) is a bonafide student at Africa Nazarene University. She has finished her course work and has defended her thesis proposal entitled: -

" Relationship between PTSD and recovery performance among clients with substance use disorders in selected rehabilitation centers in Nairobi County, Kenya".

Any assistance accorded to her to facilitate data collection and finish her thesis is highly welcomed.

Rodney T. Reed

Prof. Rodney Reed

Deputy Vice Chancellor, Academic & Student Affairs

Appendix 3: Questionnaire

Section 1: Participant Demographics

1. **How old are you** (*choose Age group*) 20-29 ☐ 30-39 ☐ 40-49 ☐ 50 and above ☐
2. **Gender** ☐ Male ☐ hale ☐ r (please specify): _____
3. **Where do you come from**? Country_____ County_____
4. **Education Level:**

☐ Below High School ☐ High School ☐ College/Technical School

☐ Bachelor's Degree ☐ Advanced Degree (Master's, Ph.D., etc.)

5. **Marital Status:**

Single ☐ Marrie ☐ Div ☐ d Wi ☐ ved Other **(please specify):** _____

Section 2: Prevalence of Post traumatic stress disorder

6. Have you ever experienced PTSD in your life? **Yes** **No** ☐ ☐
7. If yes, please specify the types of traumas you have experienced (e.g., car accident, violence, emotional trauma, childhood trauma).

_____

8. Have you been diagnosed with a substance use disorder? Yes ☐ No ☐

Section 3: Rate of Relapse to Substance Use

9. Have you ever experienced a relapse into substance use after a period of abstinence? Yes No ☐ ☐
10. If yes, please briefly describe the circumstances or triggers of the relapse.

_____

Section 4: Perception of Safety and Sobriety

11. Do you feel safe at your workplace/ in your current environment or living situation?

☐ Very Safe ☐ Safe ☐ Not Sure ☐ Unsafe ☐ Very Unsafe

12. On a scale of 1 to 10, how would you rate your perception of safety in your living environment, with 1 being very unsafe and 10 being very safe?

_____

13. Do you believe that your perception of safety affects your ability to maintain sobriety?

☐ Strongly Agree ☐ Agree ☐ Not Sure ☐ Disagree ☐ Strongly Disagree

Section 5: Intervention Strategies for PTSD and Substance Use Disorder

14. Are you currently receiving any treatment or therapy for your substance use disorder and PTSD history? Yes ☐ No ☐

15. If yes, please specify the type of treatment or therapy you are receiving.

_____

16. What, in your opinion, could be effective intervention strategies for individuals with substance use disorder who have experienced PTSD?

_____

17. How important is it for treatment programs to address both substance use disorder and PTSD history simultaneously?

☐ Very important ☐ Important ☐ Not sure ☐ Not very important ☐ Not important at all

Section 6: Additional Comments

18. Please use this space to provide any additional comments, insights, or experiences related to your journey with substance use disorder and PTSD history.

_____

Your input is valuable and will help us better understand the relationship between PTSD and recovery performance among clients with substance use disorders.

Thank you for participating!

Appendix 4: International Trauma Questionnaire (ITQ)

Instructions: Please think of the experience that troubles you most and answer the following questions in specific relation to this experience. Please read each item carefully, then indicate how much you have been bothered by that problem in the PAST MONTH

	Not at all	A little bit	Moderately	Quite a bit	Extremely
1. Have upsetting dreams that replay part of the experience or are related to the experience?	0	1	2	3	4
2. Have powerful images or memories that sometimes come into your mind in which you feel the experience is happening again, in the here and now?	0	1	2	3	4
3. Avoiding internal reminders of the experience (for example, thoughts, feelings, or physical sensations)?	0	1	2	3	4
4. Avoiding external reminders of the experience (for example, people, places, conversations, objects, activities, or situations)?	0	1	2	3	4
5. Being "super-alert", watchful, or on guard?	0	1	2	3	4
6. Feeling jumpy or easily startled?	0	1	2	3	4
7. In the past month have the above problems affectedyour relationships or social life?	0	1	2	3	4
8. Affect your work or ability to work?	0	1	2	3	4

9. Affected by any other important part of your life such as parenting, school or college work, or other important activities? Below are problems that people who have had stressful or traumatic events sometimes experience. Answer the following thinking about how true each statement is of you	0	1	2	3	4
10. When I am upset, it takes me a long time to calm down.	0	1	2	3	4
11. I feel numb or emotionally shut down.	0	1	2	3	4
12. I feel like a failure	0	1	2	3	4
13. I feel worthless	0	1	2	3	4
14. I feel distant or cut off from people	0	1	2	3	4
15. I find it hard to stay emotionally close to people.	0	1	2	3	4
16. In the past month, have the above problems in emotions, in beliefs about yourself, and in relationships: Created concern or distress about your relationships or social life?	0	1	2	3	4
17. In the past month, have the above problems affectedyour work or ability to work?	0	1	2	3	4
18. In the past month, have the above problems affected any other important parts of your life such as parenting, school or college work, or other important activities?	0	1	2	3	4

Developed by: Cloitre, M., Shevlin M., Brewin, C.R., Bisson, J.I., Roberts, N.P., Maercker, A., Karatzias, T., Hyland, P. (2018).

Appendix 5: Student's Introductory letter

I am Margaret Njoroge a student from Africa Nazarene University. Am researching the relationship of post-traumatic stress disorder and recovery performance among clients with substance use disorder in selected rehabilitation centers in Nairobi County. Information obtained in this research will be used only for this study.

Appendix 6: Assent form for the participants

I have understood the information on my participation in this study on the relationship between post-traumatic stress disorder and recovery performance of clients with substance use disorders in selected rehabilitation centers in Nairobi County. I have been allowed to ask questions which have been answered to my satisfaction. I have chosen to participate in this study voluntarily.

Signature _____ Date _____

Appendix 7: Map of the Nairobi County