

**IDENTIFYING RELAPSE INDICATORS IN A STATE-SUBSIDISED
SUBSTANCE ABUSE TREATMENT FACILITY IN CAPE TOWN,
SOUTH AFRICA**

RUSCHDA VOSKUIL



A mini-thesis submitted in partial fulfillment of the requirements for the degree of M.Psych (Clinical Psychology) in the Department of Psychology, Faculty of Community and Health Sciences, UNIVERSITY OF THE WESTERN CAPE.

SUPERVISOR: PROFESSOR K. MWABA

SEPTEMBER 2015

DECLARATION

I, Ruschda Voskuil (student no. 8523694), hereby declare that this mini-thesis is my own work, and that it has not previously been submitted for assessment or completion of any postgraduate qualification to any other university or for any other qualification.

Ruschda Voskuil

Date



ABSTRACT

Substance abuse has been identified internationally and in South Africa as an escalating problem that has harmful effects on the substance user and on society. The cost of treating substance-related disorders places a strain on the allocation of financial resources to treat the problem. When relapse occurs in substance users who have already undergone rehabilitation, it increases the costs of treatment. Waiting lists at treatment centres are also negatively affected for first-time admissions when relapsed substance users are re-admitted. The study aimed to identify relapse indicators by post-discharge follow-up of adult substance users in a registered, non-profit, state-subsidised treatment facility in Cape Town. Marlatt's Dynamic model of relapse was used to explore the individual and socio-cultural factors which were potentially associated with relapse. A quantitative research design using archival data and purposive sampling was used to identify possible relapse indicators. The participants were ex-patients who had undergone an inpatient treatment programme and who had been followed up post discharge. Ethical clearance was obtained from the University of the Western Cape Higher Degrees Committee. Written permission was granted by the treatment centre who is the original data owner. The majority of participants were male. More than half of the sample reported polysubstance use and, for more than half of them, the age of onset of substance use was between 11 and 15 years. Severe depression was present for more than a third of the participants, whilst the majority of the sample was assessed as being substance dependent. A large proportion of patients had family members who also used substances. The majority of the sample was unemployed and more than half had received previous substance abuse treatment. Significant associations were not established between the identified variables within the groups of factors. Additional studies are required to explore the factors contributing to relapse in this patient population.

Keywords: Relapse, Relapse Indicators, Substance Abuse, Inpatient Treatment Centre, Aftercare, Western Cape, Re-admission, Quantitative Research Design



ACKNOWLEDGEMENTS

I express my gratitude to the following people who contributed directly or indirectly towards the completion of this study:

- my supervisor, Professor Kelvin Mwaba, for his professional guidance, motivation and support in directing the course of this study
- a special Thank You to the management and staff of the substance abuse treatment centre who made this research possible
- my family and friends for their love, patience, support and encouragement.



TABLE OF CONTENTS

DECLARATION	i
ABSTRACT	ii
TABLE OF CONTENTS	v
LIST OF TABLES	viii
LIST OF FIGURES	ix
CHAPTER 1: INTRODUCTION	1
1.1. Background	1
1.1.1. Substance-related disorders	1
1.1.2. The prevalence of substance use	2
1.1.3. The demand for substance abuse treatment	3
1.1.4. The impact of relapse	4
1.2. Statement of problem	4
1.3. Aim	5
1.4. Rationale	5
1.5. Conclusion	7
CHAPTER 2: LITERATURE REVIEW AND THEORETICAL FRAMEWORK	8
2.1. Introduction	8
2.2. Substance abuse trends in South Africa	8
2.3. Substance abuse trends in the Western Cape	9
2.4. International research on relapse	11
2.5. South African research on relapse	13

2.6.	Theoretical framework – The Dynamic model of relapse	15
2.7.	Conclusion	17
CHAPTER 3: RESEARCH METHODOLOGY		18
3.1.	Introduction	18
3.2.	Research setting	18
3.3.	Participants	19
3.4.	Research design	20
3.5.	Data collection tools	20
3.5.	Procedure	23
3.6.	Data analysis	23
3.7.	Ethics	24
3.8.	Significance of the study	25
CHAPTER 4: RESULTS		26
4.1.	Introduction	26
4.2.	Section 1: Descriptive analysis	26
4.2.1.	Description of participants	26
4.2.1.1.	Gender and age distribution	26
4.2.1.2.	Overview of substance use	28
4.2.2.	Description of background, interpersonal and intrapersonal factors	29
4.3.	Section 2: Inferential analysis	32
4.3.	Conclusion	35



CHAPTER 5: DISCUSSION AND CONCLUSION	36
5.1. Introduction	36
5.2. Descriptive summary of participants	36
5.3. Background factors	37
5.4. Interpersonal factors	37
5.5. Intrapersonal factors	38
5.6. Description of groups of factors	38
5.7. Limitations	38
5.8. Recommendations	39
5.9. Conclusion	40
REFERENCES	41
APPENDICES	
Appendix A: UWC ethics approval	47
Appendix B: Data collection approval	48
Appendix C: DUDIT	49
Appendix D: BDI	50



LIST OF TABLES

Table 1:	Drug-related crime in RSA for April to March 2004/2005 to 2013/2014 (SAPS, 2014).	3
Table 2:	Age distribution	25
Table 3:	Description of participants according to gender and age	25
Table 4:	Severity of substance use and type of substance use	26
Table 5:	Age of initial substance use and level of education	27
Table 6:	Description of background factors	28
Table 7:	Description of interpersonal factors	28
Table 8:	Type of intrapersonal factors	29
Table 9:	Description of the level of depression for male and female subjects	29
Table 10:	Association between background factors: Family substance use history and sexual abuse history	31
Table 11:	Association between interpersonal factors: Gang membership and employment status	31
Table 12:	Association between interpersonal factors: Gang membership and partner substance use	32
Table 13:	Association between interpersonal factors: Co-morbid diagnosis and previous treatment	32

LIST OF FIGURES

Figure 1: Dynamic model of relapse (Witkiewitz & Marlatt, 2007). 16



CHAPTER 1

INTRODUCTION

1.1. Background

1.1.1. Substance-related disorders

Substance-related disorders are caused by the use of substances that affect the central nervous system. There are significant social, occupational, psychological and physical effects on the substance user as a result of the use of psychoactive substances (Sue, Sue & Sue, 2010).

Substance use disorders are described in *The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* (DSM 5) (APA, 2013) as producing substantial substance-related complications that are attributed to deviations in neural pathways. These changes may persist after abstinence has been achieved and could be evidenced in repeated relapses which are signs of the behavioural effects of these brain changes.

The presentation of substance use symptoms is heterogeneous with varying intensities of the consequences of intoxication, tolerance, withdrawal and drug-seeking behaviours. Studies have shown that there is an inter-relationship between substance use and mental illness, personality disorders and medical illnesses, and this has been noted as a possible confounding factor in treatment and relapse. These disorders may present together, may precede or may follow after the substance-related disorder, and a relapse of one disorder could precipitate the comorbid disorder (APA, 2010; Barlow & Durand, 2011; Weich & Pienaar, 2009).

In addition, the efficacy of treatment and recovery is affected by the prevalence of polysubstance use; this involves the use of two or more psychoactive substances in combination to achieve a particular effect either to compensate for the side effects of the

primary substance, to heighten the experience with the combined effect, or to substitute if the primary substance is in low supply or too costly. Dada et al. (2014) reported the incidence of polysubstance use to be between 48% and 65% of substance users who received treatment in June to December 2013.

1.1.2. The prevalence of substance use

The use of illegal substances was identified in the United Nations Office on Drugs and Crime (UNODC) World Drug Report 2013 as an ongoing international practice that endangered the health and welfare of people. The report further highlighted that there had been a global escalation in the production and misuse of new substances. The extent of drug use was described as encompassing between 3.6% and 6.9% of the adult population internationally in 2011. Herman et al. (2009), in their study which reported on the 12-month and lifetime prevalence of common mental disorders, found that Western Cape Province had the highest rate of drug use, at 42%. Nationally, alcohol (95%) and substance disorders (82%) had been found to be severe and prevalent in South Africa. Western Cape Province had the highest lifetime prevalence of substance use disorders at 20.6%.

The harmful effects of substance abuse have been linked to social risk factors such as crime and violence. Substance-related crime in the Western Cape increased from 2004/2005 to 2013/2014 by 181% (from 30 432 to 85 463 drug-related crimes). The province's crime ratio of substance-related crimes per 100 000 is approximately 3 times higher than the national average. In the Western Cape, substance-related crimes account for 40% of crimes committed. Mitchell's Plain, Manenberg, Delft, Bishop Lavis, Kleinvlei, Kraaifontein, Nyanga, Elsies River and Cape Town Central were amongst the 10 highest drug-related crime areas identified nationally. Substance abuse was highlighted as a key factor in criminal

behaviour and was directly linked to increased criminal and violent activities which have been characterised by a high prevalence of assault, rape, robbery, domestic violence, increased gang activity and drug trafficking (Western Cape Government Community Safety, 2013; Department of Social Development Annual Performance Plan 2013/2014, p.15; SAPS Crime Statistics, 2014).

Table 1:

Drug-related crime in RSA for April to March 2004/2005 to 2013/2014 (SAPS, 2014).

Reported Cases										
Province	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014
Eastern Cape	9061	7511	7231	8003	8437	8946	9566	11654	12877	15063
Free State	4063	5074	5462	4525	4561	5110	4209	4463	6168	8199
Gauteng	10722	14202	12582	12742	13574	14729	16457	25949	38159	74713
KwaZulu-Natal	19290	23206	26228	24100	23819	28693	32457	37415	42167	45954
Limpopo	1786	1977	2178	3198	3316	4837	4634	5254	7530	9609
Mpumalanga	1714	1794	2068	1770	1642	2041	3178	4153	5844	7464
North West	4383	5053	5759	6610	7109	7704	7166	7678	9157	11015
Northern Cape	2550	2085	2114	2201	1933	2371	2418	2672	2861	3252
Western Cape	30432	34788	41067	45985	52781	60409	70588	77069	82062	85463
RSA	84001	95690	104689	109134	117172	134840	150673	176307	206825	260732

Crime Ratio per 100 000 of the population										
Province	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014
Eastern Cape	131.4	109.0	104.9	115.9	128.2	134.6	141.8	170.6	195.5	227.5
Free State	138.4	171.8	184.6	152.9	158.5	176.1	149.0	161.7	224.4	297.8
Gauteng	116.8	152.2	132.1	131.5	129.9	139.9	147.0	229.1	306.2	587.0
KwaZulu-Natal	197.2	235.7	264.3	240.7	235.7	274.6	304.9	345.8	407.6	439.5
Limpopo	33.6	37.0	40.6	59.2	62.9	92.5	85.2	94.6	138.1	174.1
Mpumalanga	49.7	51.7	59.0	50.1	45.7	56.6	87.8	113.6	143.4	180.8
North West	130.7	151.8	170.7	194.7	207.6	223.3	223.9	236.0	258.2	306.2
Northern Cape	238.0	193.3	193.1	199.7	171.7	206.6	219.0	243.6	248.1	279.6
Western Cape	666.6	749.4	864.8	950.1	1003.1	1127.7	1351.3	1457.5	1389.9	1420.4
RSA	180.3	204.1	220.9	228.1	240.7	273.4	301.4	348.5	395.6	492.1

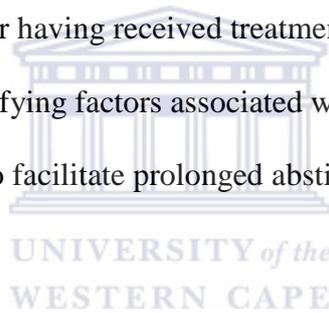
1.1.3. The demand for substance abuse treatment

The demand for treatment of substance-related disorders is disproportionately higher than the available services in the Western Cape. For the period July to December 2013, Dada et al. (2014) identified that the treatment for first-time admissions comprised about 72% of admissions in the Western Cape. The problem of constrained access to treatment is compounded by re-admissions of substance users who had been treated previously. It was

identified that 61% of patients admitted for heroin dependence in the report period of January to June 2013 had previously received treatment. This figure is in line with the problem of an overwhelmingly high demand for treatment and limited availability of substance-abuse treatment centres as reported by Sorsdahl, Stein, Weich, Fourie and Myers (2012).

1.1.4. The impact of relapse

Relapse of substance users who have undergone treatment as well as their possible re-admission, have a negative effect on the optimal use of allocated funds and also place a further burden on the treatment facilities in terms of capacity for first-time admissions. To ensure that resources are not wasted, one approach might be to reduce re-admissions of substance users who relapsed after having received treatment previously. This approach could potentially be facilitated by identifying factors associated with relapse as well as optimising treatment interventions in order to facilitate prolonged abstinence.



1.2. Statement of problem

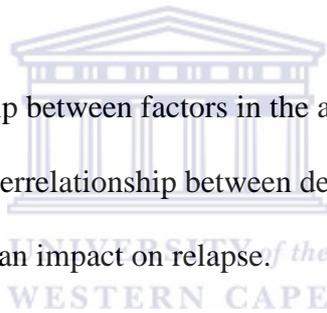
Substance abuse which is described as a chronic relapsing disease, as well as relapse after treatment, has been linked with harmful consequences for the substance user in terms of crime involvement, employment possibilities, education, health status and other social costs (Meyers & Dick, 2010; Ramo & Brown, 2008; Weich, 2006). In addition, it was contended that, when substance users relapsed after treatment, this placed further financial and psychological stress on the substance users and their families; which in turn affected broader society negatively as it placed extra demands on budgetary allocations and resources that were allocated to deal with the escalating substance abuse problem.

1.3. Aim

The present study aimed to identify relapse indicators by exploring potential relapse precipitants. The possible relapse factors were identified from archival data of participants who had relapsed as identified by follow-up over a 6-month period post discharge.

The objectives of this research study were:

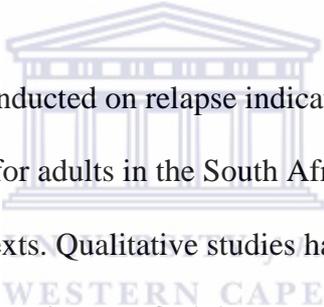
- to explore if a significant interrelationship existed between factors in the following groups which might have played a role in contributing to the relapse of ex-patients:
 - background
 - interpersonal
 - intrapersonal
- to describe the interrelationship between factors in the abovementioned groups
- to describe and explore the interrelationship between demographic and socio-cultural variables that might have had an impact on relapse.



1.4. Rationale

Substance use disorders are described in the DSM5 (APA, 2013, p. 483) as a ‘cluster of cognitive, behavioural, and physiological symptoms ...continues using the substance despite significant substance-related problems’. DSM5 further highlights that the brain changes caused by substances could be evidenced in ‘repeated relapses’. Hendershot, Witkiewitz, George and Marlatt (2011) noted that definitions of relapse were not unanimous across various studies. In the present study, relapse is defined as a return to substance use when a substance user who had been abstinent after receiving inpatient treatment, started using substances again.

Substance abuse and the treatment thereof exert significant social and financial pressure on our communities. Resources have been allocated by government, and the number of treatment facilities has been increased. In the City of Cape Town Alcohol and Other Drug Harm Minimization and Mitigation Strategy, 2011-2014 (CoCT AOD) (2011), it was reported that, as a result of the high relapse rate and repeat admissions of 2 to 3 admissions, the City of Cape Town spent up to R100 000 for inpatient treatment in individual cases instead of the estimated R25 000 per patient for a 6-week admission. The report indicated a relapse rate of 60% for inpatient rehabilitation. It was noted in the report that insufficient monitoring and evaluation data existed to comment on relapse rates in the City of Cape Town's treatment facilities.



International research has been conducted on relapse indicators. However, there is a lack of information on relapse indicators for adults in the South African and specifically in the Western Cape socio-cultural contexts. Qualitative studies have been undertaken in the Western Cape to investigate the experiences of adolescents who relapsed after treatment (Van der Westhuizen, 2007; Van der Westhuizen, Alpaslan & de Jager, 2013). However, the present quantitative study focused on relapse of adults. According to Ramo and Brown (2008), differences exist between the relapse factors contributing to the reasons that adults and adolescents returned to substance use. Although the present research looked at similar indicators for relapse as those identified in international research, the researcher posited that differences might be highlighted in terms of the unique socio-cultural context of South Africa. Research to identify relapse indicators in the patient population of the specific treatment centre had also never been undertaken. To address this gap, the present study aimed to identify the relevant relapse indicators specific to the participants at the treatment centre. The researcher hoped that the findings might inform relapse prevention therapeutic

intervention which might lead to the optimisation of treatment resources in the treatment centre.

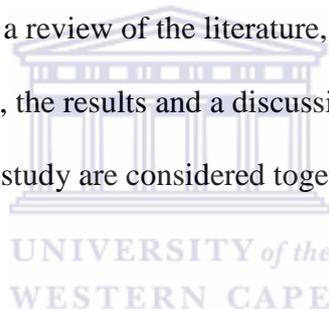
1.5. Conclusion

In the current chapter, the presentation of substance-related disorders was described.

Thereafter, the prevalence of substance use internationally as well as in South Africa and the Western Cape was reported. Following this, the demand for substance use treatment and the impact of relapse was considered. Finally, the statement of the problem, the rationale and the aims and objectives were stated.

The subsequent sections focus on a review of the literature, the theoretical framework and the research methodology. Thereafter, the results and a discussion of the study are presented.

Finally, limitations of the present study are considered together with possible areas for future study.



CHAPTER 2

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1. Introduction

In the current section, a review of the literature on substance abuse and relapse indicators is conducted. The extent of the problem in South Africa and specifically in the Western Cape is discussed to highlight the impact of substance abuse on the individual and society.

Thereafter, themes concerning relapse that have been researched in the existing literature internationally as well as in South Africa are explored. Finally, the theoretical model that provides the framework for the present study is discussed.

2.2. Substance abuse trends in South Africa

Local research has been done to identify substance use trends within South African communities. In addition, the demographic profile, risk factors and social issues that contribute to the substance abuse problem and the social problems caused by substance use have been ascertained.

In the CoCT AOD (2011), socio-cultural issues that concern substance use were identified. In particular, issues relating to the harmful effects of diseases such as tuberculosis (TB) and HIV/AIDS in conjunction with substance use were highlighted. Poverty and social marginalisation were distinguished as factors that exacerbated criminality and interpersonal conflict. The negative effects of substance use on a macro level were evidenced in the financial resources that had to be provided to address the problem and also, at a micro level, the impact on the ability of families and communities affected by substance use to sustain themselves.

In the City of Cape Town Operational Alcohol and Drug Strategy 2007-2010 (2007), the impact on broader society of the rise in substance use was described as having a negative effect on the health of substance users. The report highlighted that substance use adversely affected rates of disease, death and crime. In addition, it harmed effective family functioning and impeded the completion of education. Local and economic development was also damaged by the increasing rates of substance use.

2.2.1. Substance abuse trends in the Western Cape

The substance abuse trend in the Western Cape differs from that of the other provinces in South Africa, as identified by Ramlagan, Peltzer and Matseke (2010) in a report which investigated treatment centre statistics and cited the South African Community Epidemiology Network on Drug Use (SACENDU) research brief findings. The greatest escalation in admissions in South Africa for substance abuse was found in Cape Town and was attributed to crystal methamphetamine-related issues. The use of crystal methamphetamine (CM), which is commonly known by the street name 'tik' on the Cape Flats, was indicated as problematic; CM use had increased significantly in the last decade. Substance users who presented for treatment reported CM as the most common primary substance of abuse, and many reported polysubstance use of CM in combination with other substances, namely heroin, cannabis, mandrax, alcohol, crack, cocaine and Ecstasy (Dada et al., 2014; Harker et al., 2009).

Heroin use was also assessed as problematic. In addition, it carried a higher threat of overdose and was harder to treat when users were dependent. The study also contended that increased substance use could result in increasing HIV/AIDS rates as more people continue

to trade sex for the drug (Kapp, 2008; Nyabadza & Hove-Musekwa, 2010; Plüddemann, Myers & Parry, 2008).

In their report monitoring substance use trends, Dada et al. (2014) found that whilst alcohol was the most common primary substance used nationally, except in the Western Cape, cannabis was the most common illicit substance used (there was a slight decline in the Western Cape). Despite a decline from 39% to 28% in the proportion of adolescents admitted for treatment of CM-related problems in the Western Cape, the province remained heavily affected. The report further found that whilst patients under the age of 20 presented with CM as their primary substance, the incidence of heroin had escalated in the participant treatment centres. Admissions in Cape Town comprised 66% first-time admissions and 34% re-admissions for the period January to June 2013. The percentage of new admissions was approximately 7% lower than the average number of new admissions over the period January 2008 to June 2013, with a concomitant rise in re-admissions of approximately 7% over the same period. Polysubstance use was reported to have increased from 49% to 54% compared with the previous period. The proportion of male to female admissions for substance abuse treatment in Cape Town was similar over the period from January 2010 to June 2013, with approximately 76% of admissions being male.

Research by Plüddemann, Myers and Parry (2010) reveal that there is a high risk in coloured* communities on the Cape Flats for CM addiction.

* The use of the racial term 'coloured' is noted in Plüddemann, Myers and Parry (2010) as originating during the apartheid era. The continued use of the term in the research context serves the purpose of providing a focus for identifying areas for intervention and prevention. The use of the term in this study does not denote acknowledgement of the term by the researcher.

Weich (2006) also noted the abuse of this substance in the Western Cape and the detrimental effects on the substance user's physical and mental health. Similarly, Dada et al. (2014) found that the majority of admissions for substance abuse treatment in the period January to June 2013 specifically for mandrax, CM, methcathinone and heroin abuse comprised coloured patients. The treatment centre where the present study was undertaken is located in this identified high-risk community, and their patient population is predominantly referred from these areas. Some studies have revealed that male coloured people were the main users of CM, and others suggest that the use of this substance was increasing amongst female coloured people (Harker et al., 2009; Kapp, 2008; Leggett, 2003). Wechsberg et al. (2008) noted high CM use and risky sexual behaviour amongst coloured women. The threat of being raped, being subjected to physical violence and hazardous exposure to HIV was amplified for female substance users (Wechsberg, 2012).



2.3. International research on relapse

In a thematic study of international work published in peer-reviewed scientific journals, the UNODC (2013) stated that consensus did not exist to explain relapse in treated patients. The report outlined identified international relapse indicators including genetic, metabolic, learned behaviour, low self-worth, self-medication for psychological or physical problems, and lack of family or community support for positive function. The findings suggest that matching treatment services to adjunctive problems can improve outcomes in key areas and might also be cost-effective as they reduced the need for subsequent treatment owing to relapse. This approach is in line with the aim of the present study.

Marhe, Waters, Van de Wetering, and Franken (2013) identified relapse associated with drug-related cognitive processes as a key issue in substance abuse treatment. In their study,

using ecological momentary assessments, they determined that attentional bias and implicit attitudes to drugs are possible contributory factors to relapse. Their report deduced that understanding the reasons for relapse and relapse prevention was integral to treating substance dependence, which also concurs with the rationale for the present study.

Stress is identified as contributing to relapsing in to substance use, and a report cites research which found that stress or negative mood were indicators for relapse (Dickinson, Schwabe & Wolf, 2011). Bowen and Witkiewitz (2010) cite various research that associated negative affect, cravings, interpersonal stress, motivation, self-efficacy and ineffective coping skills as factors in relapse. In a study by Tate et al. (2008), the relevance of life stress and self-efficacy as indicators of relapse was explored, and both factors were found to predict earlier relapse.

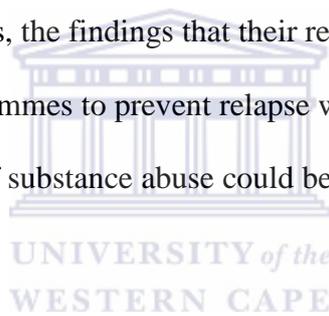
In research by Manna, Mukherjee, Sanyal and Sau (2013), substance use was defined as a chronic illness. An observational study using a cross-sectional design was done and proposed that relapse prevention was central to control substance use disorders. The study found that peer pressure and mental illness were indicators for relapse. They identified a stable family structure and employment as important for recovery; these factors are challenging in the South African context. They cite other studies which found that mental illness, inadequate housing, adverse social environments, interpersonal pressure, isolation and boredom were contributing factors to causes for relapse.

Brown and Ramo (2008) cite various research groups that had outlined circumstances related to relapse. They identified that in Marlatt and Gordon (1985) a difference was posited between interpersonal and intrapersonal indicators for relapse, and that they proposed one of these broad areas as contributing to the relapse reason. The researchers pointed out, however,

that subsequent studies illustrated that both categories played a role in the relapse situation. The interpersonal category was described as including ‘interpersonal conflict, social pressure, and positive emotional states’, and the intrapersonal category was described as including ‘negative emotional states, negative physiological states, positive emotional states, testing personal control, and urges and temptations’ (Brown & Ramo, 2008, p. 372).

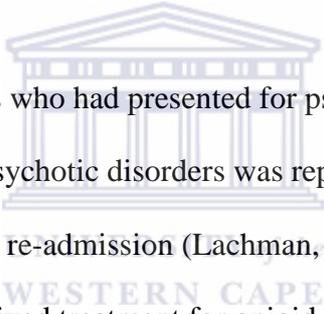
2.4. South African research on relapse

The aim of a South African study by Kalula and Nyabadza (2012) was to investigate the dynamics of substance abuse and predict drug trends. The study involved numerical simulations on CM use data in the Western Cape. Whilst the study was not aimed at the identification of relapse indicators, the findings that their research suggested were that strengthening of treatment programmes to prevent relapse was vital. Numerical results in the study suggested that the spread of substance abuse could be controlled through the reduction of relapse.



Substance-related problems and substance abuse has increased in South Africa. There has also been a rapid increase in the number of treatment centres since 1994. A review of treatment centres in South Africa indicated that CM was the common primary substance of abuse in the Western Cape. In the preceding study, previous rehabilitation was common for 35% of the respondents, which is an indication of the effects of relapse on resources. Respondents cited factors such as family care and support, socio-economic conditions and law enforcement as reasons that they could not abstain from substances (Ramlagan et al., 2010).

Similar themes contributing to the reasons that substance users relapse were reported in van der Westhuizen (2007). This study examined adolescents' perception of the reasons why they relapsed after having received free-of-charge inpatient treatment. The identified themes related to the adolescents' relapse were those of parental support, peer pressure, negative feelings, reasoning abilities, continued substance use, life skills deficit, physiological factors and the substance users' social contexts. The study concurred with findings in a study of adolescent substance users by Pasche (2009). Conflict within the family environment and association with peers who used substances were found to have contributed to the reasons for relapse. Gender was also identified as a contributory factor in relapse amongst substance users in that more male than female subjects relapsed.



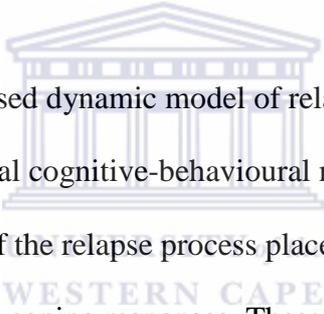
In a retrospective study of patients who had presented for psychiatric services, substance-related disorders comorbid with psychotic disorders was reported to be a negative contributory factor for relapse and re-admission (Lachman, 2012). Weich (2008) reported that 34% of patients who had received treatment for opioid dependence relapsed within 3 days, and 60% relapsed after 90 days. Ramlagan et al. (2010) reported possible relapse rates for cannabis as 50%, alcohol as 33% and cocaine and heroin as 65%.

The function of external resources (e.g. Narcotics Anonymous) in supporting substance users in recovery was identified in Weich (2008). This observation corresponds with a finding in Van der Westhuizen (2007) who reported that social support in the form of, for example, self-help groups was important in assisting individuals with recovery. The impact of aftercare support on relapse was also highlighted in a study by Ramlagan et al. (2010) who noted that patients who had funding constraints on attending aftercare as well as an inadequate number of aftercare programmes, tended to relapse. In addition, the study reported that patients'

motivation levels as well as minimal control over patients during outpatient treatment also played a role in their return to substance use.

2.5. Theoretical framework – Dynamic model of relapse

The reconceptualised Marlatt cognitive behavioural relapse prevention model was used to investigate relapse indicators in the Western Cape treatment centre as it assisted in the identification of relapse factors in the present study. This model provided a framework to explore individual factors and well as socio-cultural factors external to the person that provided an indication of the factors which might have contributed to relapse in this patient population.



In the literature reviewed, the revised dynamic model of relapse was used to conceptualise the reasons for relapse. The original cognitive-behavioural model was conceptualised in 1984, and this theoretical model of the relapse process placed emphasis on high-risk situations and the substance user's coping responses. These were understood in terms of the substance user's sense of mastery over the situation, namely whether they believed that they could or could not cope with the situation. The model proposed that if substance users believed they could cope, there would be less chance of relapse. However, relapse was likely to occur in substance users who lacked confidence in their ability to cope and in addition believed that the substance would have a beneficial effect, together with feelings of guilt and failure which were described as the abstinence violation effect (AVE). The model described relapse indicators as either being caused by 'immediate determinants (high-risk situations, coping skills, outcome expectancies and the AVE) or covert antecedents (lifestyle imbalances and urges and cravings)' (Hendershot et al., 2011; Witkiewitz & Marlatt, 2004).

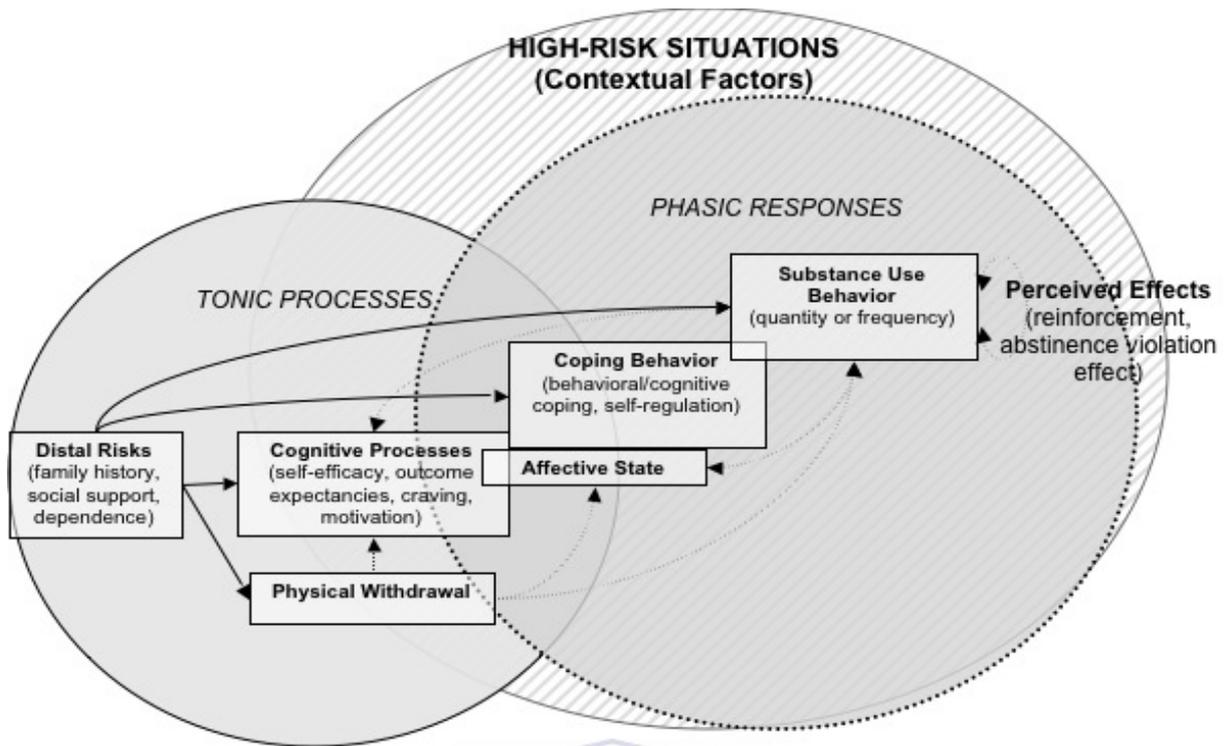


FIGURE 1: Dynamic model of relapse (Witkiewitz & Marlatt, 2007).

Marlatt's original relapse prevention model was reformulated, and relapse was conceptualised as a process that comprised many shared aspects that affected relapse. Against the background of high-risk situations, stable background factors influenced when a person returned to substance use; for example, personality, genetic or familial risk factors as well as fairly consistent beliefs about, say, the benefits of substance use (tonic processes). These processes, together with transient factors that identified weaknesses for relapse such as changing beliefs and mood states which activated or prevented the return to substance use (phasic responses), could interact in a feedback loop that influenced relapse. The authors proposed that treatment encompasses an assessment of the environmental and emotional features of high-risk situations, ascertaining the substance user's reaction to those circumstances, and examining the lifestyle factors that intensify the substance user's experience of those circumstances.

2.6. Conclusion

The literature reviewed in the present chapter related to substance abuse trends in South Africa; thereafter, substance abuse trends in the Western Cape were discussed. Following this, the literature reviewed included international research, and then South African research in relation to the possible factors contributing to the reasons that substance users relapse. The theoretical framework for the present study was then considered. In the next chapter, the methodology applied in the present study is discussed.



CHAPTER 3

METHODOLOGY

3.1. Introduction

The focus of the present chapter is on a description of the study participants and details of the setting where the study was held. The research design, data collection tools including their psychometric properties, the procedure for data collection and the method used for data analysis are then discussed. Finally, ethical considerations as well as the significance of the study are described.

This was a quantitative study aimed at identifying relapse indicators by exploring potential relapse precipitants. The possible relapse factors were identified from archival data of participants who had relapsed as identified by follow-up over a 6-month period after treatment at an inpatient facility in Cape Town. Archival data, which included demographic, clinical and other variables documented as part of clinical intake interviews as well as the BDI-II and DUDIT scores; was acquired from the treatment centre's archives of patient records. Archival data which were considered useful for identifying problem areas and also for the evaluation of interventions were used in the study (Nygaard, Bright, Saltz & McGaffigan, 2007), as well as the treatment centre's existing records. The records documented patients who had achieved initial abstinence from substance use after successful completion of the programme. Yin (2012) noted that this type of information was regarded as archival data.

3.2. Research setting

The setting was a registered, non-profit, state-subsidised, inpatient treatment facility that catered for the admission of adult men and women over the age of 18 years for a 6- or 8-week

period, with the primary diagnosis of substance use disorder. Patients were largely referred by state-funded outpatient facilities on the Cape Flats and surrounding areas in the Western Cape (e.g. City of Cape Town Matrix centres, Department of Social Development). Patients were admitted to the programme on the basis of voluntary admission. Therapeutic and medical interventions were provided by a multi-disciplinary team of mental health professionals, specifically a psychiatrist, psychologist, registered counsellors, social workers, occupational therapist and a nursing component.

The inpatient programme structure consisted of a 2-week orientation phase, a 2-week therapeutic phase, and a 2-week discharge phase in the 6-week programme which ended in December 2012. Since December 2012/January 2013, the programme has comprised 8 weeks, when the therapeutic phase was extended from 2 to 4 weeks. The outpatient section of the programme consisted of a 6-month aftercare phase.



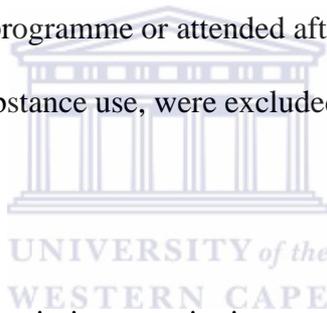
3.3. Participants

The participants were selected using purposive sampling which is a non-probability form of sampling. This type of sampling method was used when the researcher knowingly selected specific participants as they were seen as most likely to produce data relevant to the research aim (Babbie, 2013). Owing to the approval of the present study by the UWC Ethics Board as an analysis of archival data which were collected as part of the treatment programme, written informed consent was not required of the participants.

Patients who had relapsed were identified from the aftercare reports for the periods which ranged from 2012 to 2014; 96 participants met the inclusion criteria. The participants' records were designated for inclusion in the study if they were admitted for treatment subsequent to a

period of active substance use and if thereafter they were abstinent at completion of the programme, and were followed up for a period of at least six months post discharge during which their return to substance use was identified. The participants' archival records were compared using demographic, clinical and personal factor variables which were recorded as part of the treatment received. Most of the participants were unemployed, the majority had some level of secondary education, more than 50% of the participants were polysubstance users, and the majority had started using substances before the age of 20 years.

Owing to the requirements of the present study which aimed to explore factors contributing to relapse by post-discharge identification of former patients who had relapsed, patients who had not completed the treatment programme or attended aftercare, which allowed for identification of their return to substance use, were excluded from the analysis.



3.4. Research design

The study used an exploratory, descriptive quantitative research design to identify which of the factors identified from the archival data might have played a role in contributing to relapse. The study does not have a hypothesis, and for that reason an exploratory quantitative research design was used as there was insufficient knowledge about the factors which might have played a role in the relapse of patients at the treatment centre. The aim was to identify and understand the particular relevant relapse factors (Babbie, 2013).

3.5. Data collection tools

The following archival information which was obtained during clinical intake interviews included demographic data, BDI-II and DUDIT scores, as well as archival data from the aftercare reports; was used for this study:

- Demographic information which was collected via the bio-psychosocial assessment upon admission.

- Beck's Depression Inventory – II (BDI-II)

This 21-item self-administered depression scale measured symptoms of depression. It uses a 4-point scale and scores range from 0 – 3 per question. Increased depression is indicated by higher scores using the following interpretive ranges: 0-13 - minimal depression; 14-19 - mild depression; 20-28 - moderate depression; and 29-63 - severe depression. It comprises of a two component factor structure encompassing cognitive symptoms e.g. suicidal thoughts (Q 9, response 3 – “I would kill myself if I had the chance”; and somatic-affective symptoms e.g. crying e.g. Q 10, response 1 – “I cry more than I used to”. It yielded a Cronbach's alpha of 0.92 and a test-retest reliability of 0.93. It had also continuously demonstrated good validity (Nezu, Nezu, Friedman and Lee, 2009).

- Drug Use Disorders Identification Test (DUDIT)

Drug-related problems in the patients screened were indicated by this 11-item self-report measure. The test was used for measuring the participants' level of substance use in the past year and collects data with regard to the frequency of drug use, drug-related problems and drug dependence symptoms (Evren, Ovali, Karabulut, & Cetingok, 2014). The items are rated on a 3-5 point interval scale. Higher scores indicate greater substance dependence and no or minimal substance use is indicated by lower scores. The maximum score is 44 points. The cut-off scores for evaluation of substance-related problems for male and female participants are above 6 and 2 respectively, whilst scores above 25 for both genders are classified as indicative of substance dependence (Berman, Bergman, Palmstierna & Schlyter, 2003).

Table 2:

Focus for each DUDIT item (Berman et al., 2003, p. 7)

N0.	ITEM	FOCUS
1	How often do you use drugs other than alcohol?	Frequency per week/month
2	Do you use more than one type of drug on the same occasion?	Polydrug use
3	How many times do you take drugs on a typical day when you use drugs?	Frequency per day
4	How often are you influenced heavily by drugs?	Heavy use
5	Over the past year, have you felt that your longing for drugs was so strong that you could not resist it?	Craving
6	Has it happened, over the past year that you have not been able to stop taking drugs once you started?	Loss of control
7	How often over the past year have you taken drugs and then neglected to do something you should have done?	Prioritization of drug use
8	How often over the past year have you needed to take a drug the morning after heavy drug use the day before?	"Eye-opener"
9	How often over the past year have you had guilt feelings or a bad conscience because you used drugs?	Guilt feelings
10	Have you or anyone else been hurt (mentally or physically) because you used drugs?	Harmful use
11	Has a relative or a friend, a doctor or a nurse, or anyone else, been worried about your drug use or said to you that you should stop using drugs?	Concern from others

- The DUDIT was assessed as a psychometrically sound measure of substance use and dependence in a study by Evren et al. (2014). The study assessed the measure to be reliable with a Cronbach's alpha coefficient of 0.93 and concluded that it showed good discriminant validity.
- The treatment centre's aftercare report which was collated from telephone interviews that had been conducted by the aftercare administrator for a period of at least six months post discharge. The report comprised information regarding whether the patient had relapsed or was abstinent. This information was obtained from the ex-patients as well as from collateral information which had been acquired from 'significant others'.

3.5. Procedure

Ethical clearance was obtained from the University of the Western Cape Higher Degrees Committee. Permission to conduct the study was requested from the treatment facility management. Archival data were collated from participant patient files, and post-discharge information concerning relapse was collated from the aftercare reports. The original data in the patient files were gathered during clinical intake interviews at the treatment centre. The interviews were administered to the patients by registered counsellors or social workers employed at the treatment centre during the first week of admission.

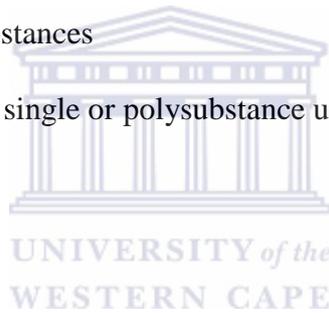
3.6. Data analysis

The Statistical Package for Social Sciences (SPSS) software (IBM SPSS Statistics 23) was used for data analysis. Descriptive statistics were used to summarise data and the interrelationship between variables was explored using inferential statistics; this enabled the identification of a possible significant association between relapse indicators using the Chi-square test. This statistical test was applied to evaluate the identified occurrences of the different factors in order to assess whether a significant relationship existed between the factors (Pallant, 2011).

In Witkiewitz & Marlatt (2011), it was noted that relapse could be precipitated by a number of factors which encompass high-risk situations that are not homogeneous. These included contextual, interpersonal and intrapersonal factors which the authors concluded had been shown to be reliable and valid.

For the purposes of the present study, relapse was operationalised as whether or not the participant had used substances subsequent to discharge from the treatment centre. To determine the factors associated with relapse, measures were used that had been suggested by Witkiewitz and Marlatt (2011) to be related to relapse in the participants for the study and that were available from the archival data:

- background factors which referred to the participants' lifetime experiences included a history of familial substance use as well as a personal history of sexual abuse
- interpersonal factors pertained to experiences which had occurred recently but did not include intrapersonal factors. Data regarding proximal events which were available from the patient records included gang membership, employment status, legal history and an intimate partner who used substances
- intrapersonal factors included single or polysubstance use and the presence of a co-morbid diagnosis.



3.7. Ethics

Ethical clearance was obtained from the University of the Western Cape Higher Degrees Committee. Written permission was requested from the treatment centre who is the original data owner. The letter of request indicated that only the researcher and the researcher's supervisor would have access to the data. The researcher pledged confidentiality and attention was paid to the ethical procedures required by the treatment centre owning the data. The researcher ensured that there was no possibility of participant anonymity being compromised upon analysis of the archival data, which was kept confidential. Data were only collected from patient files where treatment consent had been signed.

3.8. Significance of the study

The present study could contribute to an understanding of reasons that substance users who have undergone an inpatient treatment programme relapse after discharge. Data could also be provided to inform interventions regarding relapse prevention interventions at the treatment centre; this could contribute to increased wellbeing of substance users, their families and communities. In addition, if re-admissions are reduced, it could have a positive effect on the provision of treatment for substance abuse for first-time admissions as this could lead to less pressure on budgetary allocations to treat substance abuse.



CHAPTER 4

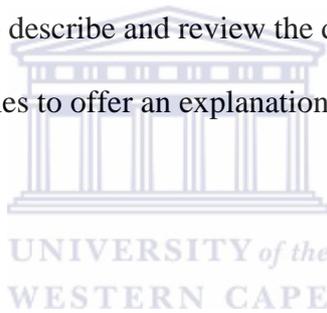
RESULTS

4.1. Introduction

The study's research findings are presented in this chapter and comprise two sections. A description of the participants of this study is presented in the first section whilst the second comprises the results of the statistical analyses performed on the sample archival data. Thereafter, a summary of the results follows.

4.2. Section 1: Descriptive analysis

Descriptive statistics were used to describe and review the data relevant to the participants of the present study by means of tables to offer an explanation of the sample characteristics (Babbie, 2013).



4.2.1. Description of participants

This section provides an overview of the study participants. The distribution of the sample in terms of gender, age, severity of substance use and type of substances used as well as age at initial substance use and level of education is described. In addition, background, interpersonal and intrapersonal factors relevant to the sample are set out.

4.2.1.1. Gender and age distribution

Descriptive data on the baseline characteristics of the research sample are illustrated in Tables 2 and 3. The sample ($N=96$) included male and female adult patients over the age of 18 years. Male subjects accounted for 73% ($n=70$) of the research sample. On average, the

patients were 27 years old. The youngest patient was 18 years old, and the oldest patient was 46 years old.

TABLE 3: Participants' age distribution.

<i>N</i>	96
Mean	27.04
Standard deviation	5.179
Range	28

The average age of admission was 27.04 years with a standard deviation of 5.179 years. The range for the ages of admission was 18 to 46 years.

TABLE 4: Description of participants according to gender and age.

			Gender		Total
			Male	Female	
Age	18–27	Count	43	18	61
		% of total	44.8	18.8	63.5
	28–37	Count	22	7	29
		% of total	22.9	7.3	30.2
	38–47	Count	5	1	6
		% of total	5.2	1.0	6.3
Total	Count	70	26	96	
	% of total	72.9	27.1	100.0	

The sample ($N=96$) included male and female adult patients over the age of 18 years. The majority of the participants ($n=61$, 63.5%) were in the age group of 18–27 years, whilst 30.2% were in the age group of 28–37 years. Six participants (6.3%) fell within the 38–47 age group. As per Table 2, it can be seen that the majority of the participants were male ($n=70$, 72.9%) whilst the remaining were female ($n=26$, 27.1%).

4.2.1.2. Overview of substance use

The level of substance use was categorised as problematic for male participants with scores above 6, and female participants with scores above 2 were evaluated as having substance use-related problems. Patients who achieved scores above 25 were categorised as substance dependent (Berman et al., 2003). Based on the patients' reports of the types of substances that they used, the participants either fell into the category of single substance use or polysubstance use.

Table 5: Participants' severity of substance use and type of substance use.

		Substance use				Total	
		Single substance use		Polysubstance use			
		<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
DUDIT	Missing	2	5.1	2	3.5	4	4.2
	Substance problem	0	0.0	4	7.0	4	4.2
	Substance dependence	37	42.0	51	58.0	88	91.7
Total		39	40.6	57	59.4	96	100.0

More than half of the participants reported polysubstance use ($n=57$, 59.4%) and the majority of participants ($n=88$, 91.7%) reported being substance dependent.

TABLE 6: Participants' age of initial substance use and level of education.

		Level of education				Total
		Special needs school	Grade R-7	Grade 8-10	Grade 11-12	
Age of substance use onset	Missing	0	0	0	1	1
	11-15	1	7	26	16	50
	16-20	0	6	17	14	37
	21-25	0	1	2	2	5
	26-30	0	0	1	2	3
Total		1	14	46	35	96

Table 5 indicates that more than half ($n=50$) of the participants started using substances between the age of 11 and 15 years, and approximately half of the participants (48%) reported attaining a level of education between grades 8 and 10.

4.2.2. Description of background, interpersonal and intrapersonal factors

The theoretical model used as a background against which the present research was conceptualised provided a framework within which the researcher identified factors from the archival data which were categorised as:

- background factors, namely a history of familial substance use and a personal history of sexual abuse
- interpersonal factors, namely gang membership, employment status, legal history and an intimate partner who used substances
- intrapersonal factors, namely BDI category, presence of a co-morbid diagnosis, and age of initial substance use.

TABLE 7: Description of background factors.

	Family substance use		Patient sexual abuse history	
	<i>n</i>	%	<i>n</i>	%
Yes	70	72.9	21	21.9
No	26	27.1	75	78.1
Total	96	100	96	100

Table 6 illustrates that the majority of the participants (72.9%) reported a history of substance use in the family. The incidence of previous sexual abuse was 21.9% ($n=21$).

TABLE 8: Description of interpersonal factors.

	Gang membership		Employed		Legal history		Partner substance use	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Missing	0	0	0	0	2	2.1	0	0
Yes	23	24.0	4	4.2	42	43.8	28	29.2
No	73	76.0	92	95.8	52	54.2	68	70.8
Total	96	100	96	100	96	100	96	100

From Table 7 it is evident that the incidence of interpersonal factors among the participants was varied. The majority of participants were unemployed ($n=92$, 95.8%), reported not belonging to a gang ($n=73$, 76.0%), and were in a relationship with a partner who used substances ($n=68$, 70.8%). Slightly more than half of the participants reported a previous legal history ($n=52$, 54.2%).

TABLE 9: Type of intrapersonal factors.

		Co-morbid diagnosis				Total	
		Yes		No			
		<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Previous treatment	Yes	20	39.2	31	60.8	51	53.1
	No	16	35.6	29	64.4	45	46.9
Total		36		60		96	100

The data in Table 8 indicate that of the 53.1% ($n=51$) of participants who had previously received substance abuse treatment, 39.2% ($n=20$) also had a co-morbid diagnosis.

TABLE10: Description of the level of depression for male and female participants.

BDI	Total BDI		Gender				Total gender	
			Male		Female			
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Missing	5	5.2	4	5.7	1	3.8	5	5.2
Minimal	17	17.7	13	18.6	4	15.4	17	17.7
Mild	16	16.7	14	20.0	2	7.7	16	16.7
Moderate	23	24.0	18	25.7	5	19.2	23	23.9
Severe	35	36.5	21	30.0	14	53.8	35	36.5
Total	96	100.0	70	72.9	26	27.1	96	100.0

As illustrated in Table 9, more than a third of all participants ($n=35$, 36.5%) presented with severe depression according to the guidelines for the BDI-II. BDI scores for the female participants revealed that 53.8% ($n=14$) of them reported severe depression.

The descriptive statistics indicate that 63.5% ($n=61$) of the participants were between the ages of 18 and 27 years. Male substance users comprised 72.9% ($n=70$) of the participants.

Analysis revealed that 91.7% ($n=88$) of the participants achieved scores on the DUDIT indicative of substance dependence, with the majority of the patients ($n=57$) reporting polysubstance use.

The age group between 11 and 15 years was shown as the age of onset of substance use for 52% of the participants, followed by the age group 16 to 20 years where 41.1% of the participants initiated substance use. The levels of education achieved by participants was reported as 47.9% having an educational level between grades 8 and 10, and 36.5% of the participants having either a grade 11 or grade 12 level of education.

The summary of background factors indicated that the participants' familial substance use involvement was 72.9% and that 21.9% of the participants reported having experienced sexual abuse. The profile of interpersonal factors for these participants revealed that 24% of the participants reported belonging to a gang, 95.8% of the participants were unemployed, more than half of the participants (54.2%) reported a previous legal history, and 70.8% of participants' partners were involved in using substances.

4.3. Section 2: Inferential analysis

Inferential statistics were used to assist the researcher to draw conclusions about the specific sample by exploring the archival data relevant to the sample of patients (Babbie, 2013).

Pearson's chi-square test was used to explore the relationships between the information gained from the patients' archival data. This statistical test was utilised to explore whether the pattern of frequencies between the variables was random or not. The exploration of the variables provided an evaluation as to whether or not the variables were associated.

TABLE 11: Association between background factors:Family substance use history and sexual abuse history.

		Sexual abuse history		Total
		Yes	No	
Family substance use history	Yes	13 (13.5%)	57 (59.4%)	70 (72.95)
	No	8 (8.3%)	18 (18.8%)	26 (27.1%)
Total		21 (21.9%)	75 (78.1%)	96 (100.0%)

It can be concluded from Pearson’s chi-square test (with Yates Continuity Correction) that the result was not significant [$X^2 (1, n = 96) = 0.131, p = 0.31, \phi = -0.13$]. This indicates that for the participants, who had all relapsed, there was not a significant association between those who had a familial history of substance use and those with a personal history of sexual abuse.

TABLE 12:Association between interpersonal factors:Gang membership and employment status.

			Employed		Total
			Yes	No	
Gang membership	Yes	Count	1	22	23
		% of total	1.0%	22.9%	24.0%
	No	Count	3	70	73
		% of total	3.1%	72.9%	76.0%
Total		Count	4	92	96
		% of total	4.2%	95.8%	100.0%

Statistical analysis (two-sided Fisher’s exact test) provided an indication that the association between patients’ employment status and gang membership was not significant ($p=1$).

TABLE 13: Association between interpersonal factors:Gang membership and partner substance use.

			Partner substance use		Total
			Yes	No	
Gang membership	Yes	Count	4	19	23
		% of total	4.2%	19.8%	24.0%
	No	Count	24	49	73
		% of total	25.0%	51.0%	76.0%
Total		Count	28	68	96
		% of total	29.2%	70.8%	100.0%

A non-significant association between gang membership and partner substance use [X^2 (1.3, $n = 96$) = .145, $p = 0.24$, $\phi = -0.14$] was established from the Pearson's chi-square test (with Yates Continuity Correction), which revealed that there was not a significant association between intimate partner substance use and gang membership in this patient sample.

TABLE 14: Association between interpersonal factors:Co-morbid diagnosis and previous treatment.

			Previous treatment		Total
			Yes	No	
Co-morbid diagnosis	Yes	Count	20	16	36
		% of total	20.8%	16.7%	37.5%
	No	Count	31	29	60
		% of total	32.3%	30.2%	62.5%
Total		Count	51	45	96
		% of total	53.1%	46.9%	100.0%

The Pearson's chi-square test with Yates' Continuity Correction revealed that the association received previous treatment [X^2 (.02, $n = 96$) = .038, $p = 0.874$, $\phi = 0.38$].

4.3. Conclusion

The results of the analysis did not reveal any significant association between the identified groups of factors in this patient sample. This finding suggests that none of these factors which were identified from the archival data for these patients could be identified as significant in the reasons for these patients' relapse.



CHAPTER 5

DISCUSSION AND CONCLUSION

5.1. Introduction

The current chapter comprises a description of the participants as well as the findings of the present study which aimed to explore the presence of significant interrelationships between identified factors that might have contributed to the reasons that the participants in the study relapsed. Factors within the background, interpersonal and intrapersonal groups of factors are discussed to explore whether their association within the group was significant. Thereafter, the interaction among the different factors and groups of factors is described.

To conclude, the limitations of the study are outlined and recommendations for future research are suggested.



5.2. Descriptive summary of participants

The majority (72.9%) of the participants were male. This proportion is similar to that of male admissions (75%) in the Western Cape reported by Dada et al. (2014). More than half of the patients reported polysubstance use (59.4%) and the majority were evaluated as being substance dependent (91.7%). The report for the period July to December 2013 by Dada et al., (2014) found that 48% of patients used a number of substances. Fifty of the 96 participants started using substances between the ages of 11 and 15 years, 15 participants had an educational level below grade 8, and only 35 participants reported achieving grades 11 and 12. The BDI-II scores for more than half of the female participants revealed severe depression, while 36.5% of all participants presented with severe depression.

5.3. Background factors

The background factors which were explored using the information available from the archival data did not reveal any significant association for the participants. However, the incidence of familial substance use was present for almost three-quarters (72.9%) of the participants. This figure should be noted as an area of concern and highlights the need for possible interventions in family dynamics that could contribute to potential relapse after treatment. The possible dangers of a challenging external environment as risk factors for substance use are noted in Lachman (2012).

5.4. Interpersonal factors

Although the present study did not find a significant association between the factors of gang membership, employment status, legal history and partner substance use, the incidence of unemployment was found to be high (95.8%) among the participants. This figure is worrying and could point to the possible effect of negative interpersonal factors within this patient sample. The rate of unemployment in this particular centre is higher than in the SACENDU Research Brief compiled by Dada et al. (2014) which found, in their study of Western Cape treatment centres, that 55% of patients were unemployed.

5.5. Intrapersonal factors

More than half (53.1%) of the participants had previously received treatment for their substance abuse problems. This figure is lower than the 71% of re-admissions in the Western Cape reported by Dada et al. (2014). Of the participants who had received previous treatment, more than a third (39.2%) presented with a co-morbid diagnosis. As noted in Lachman (2012), the co-occurrence of mental illness with substance abuse was evaluated to be indicative of relapse and re-admission.

5.6. Description of groups of factors

In the patient sample, the occurrence of adverse background factors (family history of substance use and a personal sexual abuse history) was 47.39%. The incidence of deleterious interpersonal factors among the participants of the present study was 48.17% (gang membership, unemployment, legal history and a partner who used substances). The rate of patients who had previously received treatment and who had a co-morbid diagnosis (intrapersonal factors) was 45.31%.

These data provide an indication that, across these groups of factors, no specific group might be deemed to occur more than any other group among those patients who had relapsed after treatment.



5.7. Limitations

Research exists on substance abuse and the precipitants for relapse in adolescents. However, there is a gap regarding relapse precipitants for adults specifically within the South African and Western Cape contexts. Although the researcher wished to address this gap by undertaking the present study, the course of the study highlighted many limitations that should be considered.

The archival data, although providing easy and time-saving access to patient information, was limiting in the type of data that were elicited that allowed for analysis in terms of the theoretical framework. Further, the researcher found constraints in the information that was gathered post discharge in the aftercare report, and insufficient data existed to allow examination of causality of the factors identified from the archival data concerning patients' relapses.

In addition, owing to the self-reporting nature of return to substance use and of reports from ‘significant others’ about return to substance use, an area is opened up for possible concerns about the veracity of relapse. The use of archival data and aftercare follow-up for a period of 6 months was also found to be limiting in terms of an evaluation of the impact of possible relapse factors over a longer time period. A further limitation was that only patients who had relapsed were included in the study, which restricted the analysis that could be conducted, which might otherwise have allowed for a more nuanced and richer interpretation of this specific patient group.

5.8. Recommendations

In light of the pervasiveness and damaging effects of substance use in all spheres of the country’s communities, the above-mentioned limitations point to the need for further research on the factors that might contribute to a return to substance use after rehabilitation.

Research is needed that allows longitudinal prospective evaluation to explore the temporal and causal links between background, interpersonal and intrapersonal factors and relapse. It is recommended that such further research includes patients who were admitted and discharged within the same timeframe but who had not relapsed. This inclusion will serve the purpose of informing treatment interventions by allowing earlier identification of areas of concern for specific patients (e.g. more extensive involvement of families in the treatment process, and broader involvement of social services regarding the psycho-social environment post discharge). It is also recommended that further research should encompass the involvement of the researcher prior to admission in connection with structuring a screening instrument pre-admission with the aim of investigating factors that are potentially associated with relapse as well as a post-discharge structured questionnaire administered at pre-set intervals to allow exploration of temporal and causal links to relapse.

5.9. Conclusion

The study did not reveal any significant association within the background and interpersonal and intrapersonal factors identified from the available archival data. Therefore, it is hypothesised but not generalisable that all the factors may have played a role in relapse of the participants, but it is noted as a limitation because of the constraints of being guided by what was able to be categorised as possible factors relating to relapse from the existing archival clinic data. For that reason, further research would be valuable in aiding the fight against the return to substance use by means of identifying unique socio-cultural and individual factors in the Western Cape patient population.



REFERENCES

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, D.C: American Psychiatric Association.

Babbie, E. (2013). *The practice of social research*. Belmont, CA: Cengage.

Barlow, D.H., & Durand, V.M. (2011). *Abnormal Psychology: An Integrative Approach*. Belmont, CA: Cengage Learning.

Brown, S.A., & Ramo, D.E. (2008). Classes of substance abuse relapse situations: A comparison of adolescents and adults. *Psychology of Addictive Behaviors*, 22(3), 372-379.

City of Cape Town. (2007). Operational Alcohol and Drug Strategy: 2007-2010. Retrieved from http://www.capetown.gov.za/en/drugs/Documents/Drugs_CoCT_Draft_Operational_Alcohol_and_Drug_strategy_1_1911200711379_486.pdf

City of Cape Town. (2011). Alcohol and other drug harm minimization and mitigation strategy, 2011-2014. Retrieved from http://www.capetown.gov.za/en/CityHealth/Documents/CCT_AOD_Strategy_October2011.pdf

Dada, S., Harker Burnhams, N., Williams, Y., Parry, C., Bhana, A., Wilford, A., et al. (2014). South African Community Epidemiology Network on Drug Use (SACENDU). *Monitoring Alcohol and Drug Abuse Treatment Admissions in South Africa, Phase 35*, (July to December 2013).

Dancey, C.P., & Reidy, J. (2004). *Statistics with maths for psychology: Using SPSS for Windows* (3rd ed.). Essex: Pearson.

Department of Social Development Annual Performance Plan 2013/2014. Retrieved from http://www.westerncape.gov.za/sites/www.westerncape.gov.za/files/documents/departments/social-development/app_2013-14.eng.pdf

Dickinson, A., Schwabe, L., & Wolf, O.T. (2011). Stress, habits and drug addiction: A Psychoneuroendocrinological Perspective. *Experimental and Clinical Psychopharmacology*, 19(1), 53-63.

Evren, C., Ovali, E., Karabulut, V., & Cetingok, S. (2014). Psychometric properties of the Drug Use Disorders Identification Test (DUDIT) in heroin dependent adults and adolescents with drug use disorder. *Bulletin of Clinical Psychopharmacology*, 24(1), 39-46.

Harker, N., Kader, R., Myers, B., Fakier, N., Parry, C., Flisher, A. J., et al. (2009). Substance abuse trends in the Western Cape: A review of studies conducted since 2000. Retrieved from www.sahealthinfo.org/a9dmodule/substance.pdf

Hendershot, C.S., Witkiewitz, K., George, W.H., & Marlatt, G.A. (2011). Relapse prevention for addictive behaviors. *Substance Abuse Treatment, Prevention, and Policy*, 6:17.

Herman, A.A., Stein, D.J., Seedat, S., Heeringa, S. G., Moomal, H., & Williams, D. R. (2009). The South African Stress and Health (SASH) study: 12-month and lifetime

prevalence of common mental disorders. *South African Medical Journal*, 99(5), 339-344.

Kalula, A.S., & Nyabadza, F. (2012). A theoretical model for substance abuse in the presence of treatment. *South African Journal of Science*, 108(3-4).

Kapp, C. (2008). Crystal meth boom adds to South Africa's health challenges, *World Report*. Retrieved from www.lancet.com/journals/lancet/article/PIIS0140.../fulltext

Leggett, T. (2003). On the Tuk-Tuk express. Has methamphetamine hit the Cape Flats? *SA Crime Quarterly*, 6, 33-35.

Marhe, R., Waters, A.J., Van de Wetering, B.J.M., & Franken, I.H.A. (2013). Implicit and explicit drug-related cognitions during detoxification treatment are associated with drug relapse: An ecological momentary assessment study. *Journal of Consulting and Clinical Psychology*, 81(1).

Meyers, J.L., & Dick, D.M. (2010). Genetic and environmental risk factors for adolescent-onset substance use disorders. *Child and Adolescent Psychiatric Clinics of North America*, 19(3), 465-477.

Nezu, A.M., Nezu, C.M., Friedman, J., & Lee, M. (2009). Assessment of depression. In I. H. Gotlib & C. L. Hammen (Eds.), *Handbook of depression* (2nd edn.), (pp. 44-68). London: Guilford Press.

Nygaard, P., Bright, K., Saltz., R., & McGaffigan, R. (2007). Archival data: Collection and use in community alcohol projects. *Substance Use & Misuse*, 42, 1945-1953.

Pallant, J. (2011). SPSS survival manual: A step by step guide to data analysis using IBM SPSS (4th edn.). Maidenhead: Open University Press/McGraw-Hill.

Ramlagan, S., Peltzer, K., & Matseke, G. (2010). Epidemiology of drug abuse treatment in South Africa. *South African Journal of Psychiatry*, 16(2), 40-49.

Sorsdahl, K., Stein, D.J., Weich, L., Fourie, D., & Myers, B. (2012). The effectiveness of a hospital-based intervention for patients with substance-use problems in the Western Cape. *South African Medical Journal*, 102(7), 634-635.

Sue, D., Sue, D. & Sue, S. (2010). *Understanding Abnormal Behaviour*. Boston: Houghton Mifflin.

Tate, S.R., Wu, T., McQuaid, J.R., Cummins, K., Shriver, C., Krenek, M., et al. (2008). Co-morbidity of substance dependence and depression: Role of life stress and self-efficacy in sustaining abstinence. *Psychology of Addictive Behaviours*, 22(1), 47-57.

United Nations Office on Drugs and Crime. (2013). World drug report 2013. Retrieved from http://www.unodc.org/unodc/secured/wdr/wdr2013/World_Drug_Report_2013.pdf

Van der Westhuizen, M.A., (2007). *Exploring the experiences of chemically addicted adolescents regarding relapse after treatment*. Unpublished Masters thesis, University of South Africa, Pretoria.

- Van der Westhuizen, M., Alpaslan, A.H.N., & De Jager, M. (2013). Aftercare to chemically addicted adolescents: An exploration of their needs. *Health SA Gesondheid (online)*, 18(1), 1-11. Retrieved 1 September 2014, from http://www.scielo.org.za/scielo.php?script=sci_arttext&pid=S2071-97362013000100007&lng=en&tlng=en
- Wechsberg, W.M., (2012). Promising international interventions and treatment for women who use and abuse drugs: Focusing on the issues through the InWomen's Group. *Substance Abuse and Rehabilitation* , 3(1), 1-4.
- Wechsberg, W. M., Luseno, W., Riehm, K., Karg, R., Browne, F., & Parry, C. (2008). Substance use and sexual risk within the context of gender inequality in South Africa. *Substance Use & Misuse*, 43(8-9), 1186-1201.
- Weich, E.M. (2006). Substance use disorders. *Continuing Medical Education*, 24(8), 436-440.
- Weich, E.M.(2008). Medical management of opioid dependence in South Africa. *South African Medical Journal*, 98(4), 280. <http://dx.doi.org/10.7196/samj.319>.
- Weich, L., & Pienaar, W. (2009). Occurrence of co-morbid substance use disorders among acute psychiatric inpatients at Stikland Hospital in the Western Cape, South Africa. *African Journal of Psychiatry*, 12, 213-217.
- Witkiewitz, K., Bowen, S., Douglas, H., & Hsu, S.H. (2013). Mindfulness-based relapse prevention for substance craving. *Addictive Behaviors*, 38, 1563-1571.

Witkiewitz, K., & Marlatt, G.A. (Eds.). (2011) *Therapist's guide to evidence-based relapse prevention*. Waltham, MA: Academic Press.

Western Cape Government Community Safety. (2013). Report on the identification of policing needs and priorities in the Western Cape 2012/2013. Retrieved from http://www.westerncape.gov.za/assets/departments/community-safety/pnps_2012-2013_report_29-08-2013.pdf.

Yin, R.K. (2012). *Applications of case study research*. Thousand Oaks, CA: Sage.



APPENDIX A

UWC ETHICAL APPROVAL



APPENDIX B

DATA COLLECTION APPROVAL



APPENDIX C

Drug Use Disorders Identification Test (DUDIT)



APPENDIX D

Beck's Depression Inventory – II (BDI-II)

