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SERVICE USERS' AND SERVICE PROVIDERS' UNDERSTANDINGS OF ADDICTION AND THEIR IMPACT ON TREATMENT PLANS AND TREATMENT OUTCOMES

A research report submitted in fulfilment of the requirements of the degree Master of Arts in Social Work by Research Dissertation

BY
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November, 2011

DECLARATION

I hereby declare that this research report is my own original and unaided work and that all references to other sources and other authors' work have been properly cited and referenced.

Furthermore, this research report has not been submitted previously for any other degree or examination.

_____

Candice Garrun

ACKNOWLEDGEMENTS

The researcher wishes to extend profound gratitude to the following people:

- ***Mrs. Francine Masson***

  Another year, another topic on addiction and another piece of research! Deep appreciation is extended to the most wonderful supervisor. Her guidance, support and direction were invaluable. Her encouragement to pursue a Masters is a large reason this piece of research was conducted.

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  Thank you for all your assistance with the statistical side of things!

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- ***Participants***

  To all of those who participated in this research, you continue to help carry the message – thank you!

- ***Professional Community***

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- ***Personal Support System***

  To my incredible husband and my loving family and friends –thank you all for your limitless love and support. I promise this is it (at least for a while).

DEDICATION

This work is dedicated to *all* recovering addicts who have had the courage to change.

Live Life

Laugh Lots

Love Forever

PROLOGUE

I AM YOUR DISEASE

To all who come in contact with me, I wish you death and I wish you suffering.

Allow me to introduce myself; I am the disease of addiction. Alcoholism, Drugs and Eating Disorders. Cunning, Baffling, and Powerful! That's me. I have killed millions, and I am pleased. I love to catch you with the element of surprise. I love pretending I am your friend and lover. I have given you comfort, have I not? Wasn't I there when you were lonely? When you wanted to die, didn't you call me? I was there. I love to make you hurt, I love to make you cry. And better yet, I love it when I make you so numb, that you can neither hurt nor cry. You feel nothing at all.

This for me is true glory. I will give you instant gratification and all I ask of you is long suffering. I've been there for you always. When things were going right in your life, you invited me. You said you didn't deserve these good things, and I was the only one who agreed with you. Together, we were able to destroy all things good in your life.

People don't take me seriously. They take Strokes seriously, Heart Attacks seriously, even Diabetes they take seriously. Fools that you are, you don't know that without my help, these things would not be made possible.

I am such a hated disease, and yet I do not come uninvited. You choose to have me, so many have chosen me over reality and peace.

More than you hate me I hate all of you who have a twelve step program. Your programs, your meetings, your Higher Power; all weaken me and I cannot function in the manner I am accustomed to.

Now I must lie quietly. You don't see me, but I am here, growing bigger and stronger than ever. When you only exist, I can live. When you live, I can only exist. But I am here and until we meet again, if we meet again, I wish you death and suffering.

Sincerely,

Your Disease of Addiction

(Author Unknown)

ABSTRACT

The word addiction is almost immediately associated with notions of drug dependency and alcoholism, and drug addiction is often referred to as a pandemic that affects individuals, families, communities and society at large. Aetiological approaches to understanding and treating addiction have changed dramatically throughout history, and currently the most contemporary approach is that of the disease model which views addiction as an illness rather than as a 'badness'.

While the underpinnings of Narcotics Anonymous' 12 step philosophy employs non-specific drug language as it views all drugs as having the capacity to become addictive, and while it does not distinguish between the capacity for substances and certain behaviours to become addictive, activities such as overeating, having sex and gambling are yet to be classified as legitimate addictions by the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV-TR). As a result, it appears as if some confusion exists as to whether these behaviours should be classified as impulse control disorders or as genuine addictions due to the various similarities they share in common with substance based disorders.

The research conducted explored how people recovering from addiction, as well as how people working with addiction understand addiction and multiple dependency, together with the factors that contribute to relapse and the ability to abstain. Various 12 Step meetings from a variety of 12 Step Fellowships were attended and members were invited to participate in the study. Ultimately seventy eight participants completed a self developed questionnaire which was utilised to assess how people recovering from addiction understood addiction and multiple dependency and the factors that contribute to relapse and the ability to abstain. Quantitative data were analysed via descriptive and inferential statistics. Furthermore twenty participants working with addiction were interviewed with the use of a semi structured interview schedule in order to explore their perceptions around addiction and the factors that contribute to relapse and sobriety. Qualitative data were analysed using thematic content analysis.

Results indicated that the majority of recovering addicts and professionals working with addiction understand addiction as a disease. However, discrepancy was apparent with regards to whether or not all recovering addicts have the same disease and subsequently whether all addictions can be treated in the same manner. The above result suggested that there was no standardised, uniform way in which the disease model is understood and interpreted. Factors such as cross addiction,

resistance to change and issues relating to the maintenance of change were identified as issues that contribute to relapse, while factors such as aftercare, following the 12 step programme and support were identified as the main aspects that contribute to sobriety. No statistical significance was noted between participants who had relapsed as opposed to those who had not for variables of sensation seeking, impulsivity and perceived stress (which may have been as a result of small sample size). Deeper understanding of the disease model together with broader application of it, and a focus on appropriate training and more comprehensive assessment could perhaps see a reduction in high rates of relapse and recidivism more commonly known as the 'revolving door syndrome'.

Key words: addiction, 12 steps, disease model, substance based addiction, behaviour based addiction, multiple dependency, cross addiction, relapse, abstinence, revolving door syndrome.

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LIST OF ABBREVIATIONS

AA – Alcoholics Anonymous

AN – Anorexia Nervosa

BIS- Barrat Impulsivity Scale

BN – Bulimia Nervosa

BPD – Borderline Personality Disorder

BS – Boredom Susceptibility

CBT – Cognitive Behavioural Therapy

CO – Compulsive Overeating

DIS - Disinhibition

DSM-IV-TR – Diagnostic and Statistical Manual of Mental Disorders, 4th Edition – Text Revision

ED – Eating Disorder

EDA – Eating Disorders Anonymous

ES – Experience Seeking

GA – Gamblers Anonymous

HSS – High Sensation Seeker

ICD – Impulse Control Disorder

MI – Motivational Interviewing

NA – Narcotics Anonymous

NIDA – National Institute on Drug Abuse

OA – Overeaters Anonymous

PSS – Perceived Stress Scale

SAA – Sex Addicts Anonymous

SACSSP – South African Council for Social Service Profession

SM – Self Mutilation

SMA – Self Mutilators Anonymous

SSS – Sensation Seeking Scale

SUD – Substance Use Disorder

TAS – Thrill and Adventure Seeking

CHAPTER 1

INTRODUCTION

1. INTRODUCTION TO THE STUDY

When speaking of addiction, the most common association is that of chemical dependency which is almost immediately connoted with drug addiction and alcoholism (Webster, 2000). Contemporary approaches to understanding and treating addiction are predominately based on the disease model of dependency, which postulates that addiction is a disease and the drug addict/alcoholic is believed to have an illness which has its own symptoms, course, aetiology and treatment (Barlow & Durand, 2005; Bloch, 2007; Henderson, 2000). Within this model, it is believed that addicts experience their addictions as compulsive (once they start they can't stop) and obsessive (constantly thinking and planning how they can get high or get more of their drug) when the addiction is active, however with complete abstinence from all mind altering chemicals, the disease can be treated, monitored and to some degree controlled (Coombs, 2001; Rosenthal, 2008).

But what of the compulsive gambler, overeater or sex addict? While their experiences bear startling similarities to the experiences of drug addicts and alcoholics, they are not officially classified as 'addictions' but rather as impulse control disorders (Potenza, 2006). The fact that chemical dependencies have a physiological component to them has led many to conclude that they should be separated from other compulsive behaviours. However this can be considered an exclusive approach to addiction as it denies the possibility that at their base, all 'addictions' are essentially compulsive in nature (Giddens, 2007). Thus the question arises: should addiction be expanded to include social experiences which also produce feelings in the brain's pleasure pathway similar to those caused by chemicals? (Potenza, 2006).

To this end, one school of thought reasons that to limit addiction to chemicals is to ignore a mounting body of scientific literature that explores the neurochemistry of addictive disorders. It is to discredit that risk taking behaviours such as gambling and having sex and routine daily activities such as eating and exercising can create effects on the brain similar to those caused by alcohol and

chemicals (Coleman-Kennedy & Pendley, 2002). The fact that it is exceptionally rare to find substance abusing clients that experience only one form addiction (Taber, 2005) means that the presence of dual addictions will have serious treatment implications, and the proper identification of them will therefore affect treatment decisions (Coleman-Kennedy & Pendley, 2002).

Nevertheless, some treatment centres often reflect a narrow application of the disease model as they are either separately named or they have separate staff who deal with specific addictions. It is very common in today's times to find that people have sought specialised treatment for either alcohol or gambling or eating disorders (Taber, 2005). While there are still some who argue that treating and changing more than one addiction at a time is impossible and implausible, they are assuming that there are a variety of disorders to deal with rather than with one major underlying disorder (Taber, 2005). To that end, current research and theories are emerging which propose that perhaps addiction has been largely misunderstood (Coleman-Kennedy & Pendley, 2002; Taber, 2005; Young, 2004; Zorn, 2000) and the time for its reconceptualisation is now.

As a result, this study aimed to explore how addiction is understood and how this impacts on treatment plans and treatment outcomes, namely relapse and the ability to maintain sobriety/abstinence. This chapter introduces the study by highlighting the research problem and rationale underpinning the study. Moreover this introductory chapter provides an overview of the research design and methodology which informed the study and thereafter an outline of how the research report is organised, is presented.

2. STATEMENT OF THE PROBLEM AND RATIONALE FOR THE STUDY

It is critical to clarify two points from the outset. Firstly, a main conceptual stance upon which this study was based is that Addiction is understood as a broad term for an insidious, multi-faceted illness. As a result, its cluster of symptoms can be viewed as including a variety of compulsive behaviours and forms in which the illness manifests, some of which include drug addiction, gambling, eating disorders, self-mutilation, alcoholism, compulsive sexual activity, excessive working and exercise. And while people may present with the addiction very much alive in one area (or more), once it is treated and arrested, it is not uncommon for the disease to become active in another area, a phenomenon commonly referred to as cross addiction. Secondly, because it is within this particular conceptual orientation that Narcotics Anonymous' 12 step philosophy is

embedded and due to the fact that this philosophy views Addiction as a disease, that theoretical basis upon which the study was framed and informed was within that of the Disease Model of Addiction.

The epistemology of the 12 steps is founded on the premise that addiction is a spiritual, physical and mental disease that can present itself in a variety of manners. In other words, any addictive drug or behaviour that is abused can result in addiction and as a result all addicts have the disease in common but may present with a different symptom profile (Narcotics Anonymous, 2008). This expansive understanding of addiction, allows for greater comprehension of the scope of the disease as addicts are encouraged to view their disease as being about more than just the drugs or the gambling or the food. Hence the treatment for the disease is complete abstinence from all mind and mood altering substances and behaviours, regardless of how the disease may have presented itself.

If Narcotics Anonymous proposes that all addicts share this disease one has to wonder if the other 12 step fellowships view the disease in the same manner, and how understandings of addiction affect relapse and peoples' abilities to stay clean and abstinent. In other words, is Addiction the illness itself and the various addictions (drugs, alcohol, gambling, sex, food etc.) merely symptoms of this bigger base disease, or are the different addictions viewed as illnesses in their own right? This research therefore sought to explore how people recovering from addictions, and how professionals working with addiction perceive and understand this phenomenon.

Furthermore, if recovering addicts are aware that addiction can result from the abuse of any drug or addictive behaviour, and that the disease has a tendency to become activated in other areas when it is arrested, why is it that very few adhere to complete abstinence from all mind/mood altering substances and behaviours, and how does this affect relapse and their ability to remain clean and abstinent? One has to wonder, are there certain variables that assist people in obtaining long term recovery and if so, what are they?

The difference in philosophy and individuals' varying degrees of abstinence and sobriety can perhaps be attributed to the fact that there is no single manner in which to interpret the disease model of addiction. Perhaps some view the disease as a common infliction that varies in severity from person to person, from drug to drug, from behaviour to behaviour or from drug to behaviour.

As a result, the research conducted aimed to explore whether different interpretations of the disease model exist and, if coupled with individual variables, how do they influence relapse and the ability to remain abstinent.

3. DEFINITION OF KEY CONCEPTS

12 Step programme: the Twelve Step programme is a spiritual programme that literally consists of 12 steps. It is well known for use in recovery from addictive or dysfunctional behaviours (www.12step.org)

Abstinence: complete refrain from mind and mood altering substances and behaviours (Marlatt & George, 1984)

Addiction: "a disorder in which an individual becomes intensely preoccupied with a behavior that at first provides a desired or appetitive effect" (Sussman, Lisha, & Griffiths, 2011, p. 4). The addiction involves substantial pre-occupation with and engagement of the behaviour; a loss of control over the behaviour and negative, behaviour-related adverse consequences (Schneider & Irons, 2001).

Behaviour based addiction: pathological behavioural addiction that emerges as a result of repetitively engaging in addictive behaviours. These include: gambling, food addiction, sex addiction, excessive exercise, work addiction, internet addiction and so forth (Sussman, Lisha, & Griffiths, 2011).

Compulsion: a pathological behaviour an individual feels "compelled" to act on, it seems as if "they cannot resist the impulse to do so" (Sadock & Sadock, 2007, p. 783).

Craving: a subjective experience in which an individual feels a compelling urge or a profound wish or desire to use a substance (Halikas, 1997).

Cross addiction: occurs when an individual exchanges one compulsive behaviour for another. Also known as addiction transfer or addiction substitution (McFadden, 2010).

Disease model: compares substance dependency to a complex physical, psychological and spiritual illness. Within this approach the disease is viewed as a chronic, relapsing and potentially deadly disorder that can be treated but not cured. If it is left untreated it is progressive and eventually results in death (Henderson, 2000).

Drug: "any substance that has a psychoactive, chemical or medicinal effect when ingested" (Akers, 1992, p. 15).

Drug Addiction/dependency: the last stage of the dependency process. Addiction is considered as a state of compulsive drug use which is characterized by a complete loss of control, tolerance, withdrawal, craving and relapse (Cami & Farre, 2003).

Impulse control disorder (ICD): refers to a group of disorders that share the essential feature of "the inability to resist an intense impulse, drive, or temptation to perform an act that is obviously harmful to self, or others, or both. Before the event, the individual usually experiences mounting tension and arousal … completing the action brings immediate gratification and relief" (Sadock & Sadock, 2007, p. 773).

Impulsivity: the tendency to act and or think on impulse without much forethought, planning and reflection (Komarovskaya, Loper, & Warren, 2007).

Multiple dependency: refers to the simultaneous presence of more than one addiction (Holden, 2000).

Relapse: refers to the process of returning to the use of alcohol or drugs after a period of abstinence (Albury, 2007).

Revolving door syndrome: refers to the cycle of admission, treatment, relapse and re-admission within substance abuse settings (Fraser, 2008).

Sensation seeking: ''a trait defined by the seeking of varied, novel and complex experiences, and the willingness to take physical, social, legal and financial risks for the sake of such experience" (Manuel Lopez-Bonilla & Miguel Lopez-Bonilla, 2010, p. 177).

Substance based addiction: addiction resulting from the ingestion and use of psychoactive drugs (Sussman, Lisha, & Griffiths, 2011).

4. PURPOSE OF THE STUDY

The purpose of this research was to investigate how service users (people with addictions) and service providers (people who treat addictions) understand addiction and how different understandings of addiction affect a) treatment plans and b) treatment outcomes (specifically relapse and the ability to maintain sobriety).

The research questions included:

- How do service users understand addiction and do variations of understanding exist?
- How do service providers understand addiction and do variations of understanding exist?
- Do various understandings of addiction affect the type of treatment plan followed by service users?
- How do treatment providers perceive various treatment plans affecting treatment outcomes namely relapse and the ability to maintain sobriety?
- Do different understandings of addiction, personal variables, impulsivity, sensation seeking and perceived stress affect treatment outcomes namely relapse and the ability to maintain sobriety/abstinence?

5. OVERVIEW OF RESEARCH DESIGN AND METHODOLOGY

The study employed an exploratory-descriptive, triangulated research design and thus incorporated both quantitative and qualitative elements. The sample of service users consisted of seventy eight participants from Gauteng, South Africa who attend various 12-Step Fellowship meetings and data were analysed using both quantitative and qualitative methods. The sample of service providers consisted of twenty participants from Gauteng, South Africa who work at a variety of treatment facilities and data were analysed using qualitative analysis. The research instrument used with sample one consisted of a self developed questionnaire together with a modified version of the Zuckerman *Sensation Seeking Scale Form V – SSS-V; The Barrat Impulsivity Scale* and the 4 item, *Perception of Stress* Scale. The research instrument used with sample two was a semi-structured

interview schedule which consisted of open and closed ended questions. The data obtained from the study were analysed using descriptive and inferential statistics and thematic content analysis.

6. ANTICIPATED VALUE OF THE STUDY

This study explored both service users' and service providers' understandings of addiction and the factors that contribute to relapse and the sobriety. The anticipated value of the study included:

→ To improve and inform services targeting individuals affected by addiction as the interpretation and application of the disease model of addiction will be assessed.

→ To enhance not only mental health care professionals' understanding of addiction but also that of people who are addicted, which in turn will allow for re-evaluation of treatment plans.

→ To create awareness of the complexities inherent in the nature of addiction, specifically around the issues of multiple dependency and cross addiction which severely affect treatment interventions and outcomes.

→ To stress the major factors that contribute to relapse and sobriety which can be used to inform post-treatment action plans.

7. ORGANISATION OF THE REPORT

The research report is divided into seven chapters:

Chapter one:

This chapter provided an orientation to the study: the introduction contextualised the topic by describing the research problem and the rationale for the research; the main purpose of the study was clarified; the research design and methodology employed was described; key definitions were expanded upon and the overall limitations inherent in the study were presented.

Chapter two:

Chapter two presents a review of the literature relating to addiction and its various definitions with special focus on the debate as to whether behaviours can be considered addictive. It also outlines characteristics that are common to all addictive processes, and the issue of whether or not there are enough similarities across substances and behaviours, is debated.

Chapter three:

In chapter three, the myriad of aetiological explanations for addiction are explored in an attempt to expose the vast similarities that exist in understanding all 'addictions'. In addition, shortcomings inherent in the individual approaches are exposed. It is within this chapter that the reader is introduced to the disease model of addiction (and the latest consideration of addiction as a brain disease). Because it dominates contemporary understandings of addiction and is the cornerstone upon which 12 Step Fellowships have been founded, it provides the theoretical framework upon which the entire study was based.

Chapter four:

Chapter four focuses on the variety of treatment approaches to addiction with special attention paid to the disease model which characterises Narcotics Anonymous' approach to addiction. It is here, in chapter four, that the concepts of cross addiction and multiple dependency, which can be seen as central to the disease concept, are discussed.

Chapter five:

This chapter contains a detailed explanation of the research design and methodology employed throughout the study. Aspects such as sampling procedures, inclusion and exclusion criterion, research instrumentations, research procedures and data analysis are presented. Furthermore the strengths and limitations of the study are discussed as are issues of reliability, validity and ethics.

Chapter six:

Chapter six presents and discusses the results and findings that emerged from the questionnaires and interviews in relation to existing literature. The analysis of the quantitative and qualitative data are at times combined, and data are linked to the aims and objectives of the study. Results are presented in the form of tables, figures and quotations in order to answer the research questions underpinning the study.

Chapter seven:

In this final chapter the main findings of the study are discussed, conclusions will be drawn and recommendations for future research, practice and theory will be proposed.

CHAPTER 2

REVIEW OF THE LITERATURE

INTRODUCTION TO ADDICTION

1. INTRODUCTION

Attempting to link all aspects of the **dependency** field together is a massive undertaking. In an effort to present one comprehensive paper on the various manners in which **addiction** manifests, a multitude of texts concerning addiction and addiction related topics were consulted, where it was discovered that very little concerning this field is universally agreed upon. Many theories have been proposed by various researchers, scholars, and clinicians and through participant observation in ventures to explain the nature of this complex problem (Aasved, 2002). The aim of this chapter is to present and evaluate the most popular and reliable of these explanations and research papers, in an effort to introduce the reader to the basics underlying addictive disorders.

2. UNDERSTANDING ADDICTION

The term addiction is derived from the Latin *addicere* which means 'bound to' or 'enslaved by' and was initially used with no specific reference to substance use (Potenza, 2006). Even though over the years it started becoming synonymous with drug taking and an inability to control substance use (Terry, Szabo, & Griffiths, 2004), it appears as if currently the theory of addiction is moving beyond this conceptual framework (Holden, 2000). The result is that it seems as though there is presently a shift in the categorisation of addiction, and now more than ever there is a movement pushing for the consideration of non-substance related behaviours and disorders as being truly addictive in nature (Potenza, 2006).

2.1. THE DEBATE ON WHAT CONSTITUTES AN ADDICTION

Since the 1970's many authors have drawn parallels between behaviours associated with substance abuse and activities such as eating, exercising, watching television, shopping, gambling, having sex

and more recently internet usage (Terry et al., 2004). This has resulted in the casual usage of addiction terminology to describe - in many cases - behaviours which are done excessively – as is evidenced in phrases such as 'shop-a-holic' or 'T.V. addict' – (Morahan-Martin, 2005) or to describe a form of dependency relationship someone has to something such as chocolate or a boyfriend (Holden, 2000). This, according to Jaffe (as cited in Morahan-Martin, 2005) has seriously undermined concepts not only of substance use disorders (SUD) but also of the experiences of people who suffer from **compulsive** behaviours. And while it is indisputable that several behaviours which are truly compulsive and repetitive in nature bear astonishing similarities to addictions, the applicability and extension of the term addiction from substances to behaviours, is a topic that has been the source of much debate (Morahan-Martin, 2005).

According to Marks (1990, p. 1389) "addiction denotes repetitive routines that aim to obtain chemicals and, less often, routines without that aim. The latter of which are **behavioural addictions**". In contrast, some authors have proposed that behaviours such as disturbed use of the internet and compulsive sexual activity are actually **impulse control disorders**, others strongly feel that the term addiction is only valid for the ingestion of a **drug** (Rachlin & Walker, as cited in Young, 2004) while another school of thought proposes that the term 'addiction' has now spread to encompass a range of behaviours that do not involve intoxicants such as compulsive/pathological gambling, video game playing, over eating and love relationships (Young, 2004). As a result, Curtiss (2004) stresses that when speaking of addiction, it has now become important to distinguish between different types of addictions namely substance based addictions and behaviour based addictions/impulse control disorders**.**

2.2. SUBSTANCE BASED ADDICTIONS/CHEMICAL ADDICTION

Substance based addictions include alcoholism, nicotine addiction, prescription and narcotic addiction[1]. These addictions are more easily explained and they are often identified neurologically (Curtiss, 2004). It is believed that substances either block the re-uptake of neurotransmitters or increase the release of neurotransmitters, and thus repeated consumption has the ability to alter the brain's neurological patterns (Curtiss, 2004; Nosal, 1999).

[1] The term substance will be used here on in to denote and include substances (i.e. drugs) and alcohol.

If the process of dependency is outlined simply, it can be considered to include four main steps. Firstly people *learn the mood swing*: when a chemical is ingested, it results in a state of pleasure or euphoria as the brain's reward system is profoundly activated. Dr. Leshner – the director of the National Institute on Drug Abuse (NIDA) – explains that the above reason is often overlooked as a legitimate reason why people use drugs, yet it is precisely because drugs make people feel good at a physiological level that they continue to do so. Secondly people *seek the mood swing*: from their first experience, individuals learn that they can use something outside of themselves (i.e. a chemical) to manipulate and change their internal state (i.e. on a physiological and emotional level), and that it will produce a positive or euphoric feeling (Webster, 2000). As a result, the person wishes to do it again and again and begins –in the third stage – to become *preoccupied with the mood swing*. The person then moves quickly from using drugs voluntarily to a state of compulsive use which is often driven by **cravings** for the drug as he/she has become *dependent on the mood swing* in the final stage (Webster, 2000). This however is a grand over simplification of drug use, and it is therefore useful to explore what elements are pivotal in the description of an addiction.

2.2.1. Defining chemical dependency

Drug dependency has become synonymous with the term addiction[2], and although the term is commonly employed to describe a general state of 'chemical slavery', there is some debate as to how to define addiction or substance dependence (Qureshi, Al-Ghamdy, & Al-Habeeb, 2004; Barlow, & Durand, 2005) due to the various manners in which addiction can be defined.

Physiological dependence – tolerance and withdrawal

One way in which to describe addiction is in physiological terms. In this case, a person becomes physiologically dependent on the drug (or drugs) and as a result, requires greater and greater amounts of the drug in order to experience the same effect. This is commonly referred to as tolerance. Furthermore, the person will experience negative physical reactions when the substance is no longer ingested or the person experiences what is commonly termed withdrawal. Hence tolerance and withdrawal are physiological reactions to the frequent ingestion of chemicals (Barlow & Durand, 2005). However there are several problems with defining chemical dependency solely in

[2] For the purpose of this report, the term addiction and dependency will be used interchangeably to denote the final stage of addiction which is characterised by loss of control and compulsion.

physiological terms. One such problem lies in the fact that certain drugs are not physiologically addicting but a user may build tolerance against them for example cocaine may result in tolerance in the user but does not result in physiological withdrawal. The withdrawal from cocaine is often described as psychological and may include symptoms such as anxiety and boredom. In addition, Gifford and Humphreys (2007) propose that tolerance and withdrawal can both occur without the presence of any addictive behaviours. This may be seen in the case of a patient who is given morphine for a terminal illness. In this case, the patient may require greater amounts of morphine over time in order to experience pain relief and will certainly experience withdrawal symptoms if the administration of the morphine is suddenly stopped. Yet the patient may not steal or lie (addictive behaviours) to obtain the morphine.

Behavioural dependence

Therefore another way in which to define addiction is to look for the presence of what are commonly called 'drug seeking behaviours' as a measure of chemical dependency. These behaviours include: the repeated use of the drug, a desperate need to use more and more quantities of the drug, lying, stealing and manipulation as a means to obtain the drug, preoccupation with the drug and a high likelihood of **relapse** after a period of **abstinence** (Asenjo, 2009; Sadock & Sadock, 2007). This approach to defining addiction assumes that the more severe the behaviour, the more dependent the person is on the drug. This way is often termed behavioural dependence and is therefore closely linked to defining addiction in psychological terms (Sadock & Sadock, 2007).

Psychological dependence

A third way in which to define addiction is in terms of psychological dependence. An article by *Addiction Science Network*, remarks that psychological dependence essentially means that an individual requires the substance for 'normal psychological functioning' and as such, abstinence from the substance creates a disruption in normal psychological functioning ("Distinguishing drug abuse from drug addiction – why the difference is important", 2009).

Sussman and Ames (2009) expand on the notion of psychological dependence and employ the term 'habituation' when referring to this form of dependency. According to them, psychological

dependence is created because certain drugs have a powerful effect on the brain's reward system. In some cases, certain drugs may not in fact create physical dependence and as such they do not result in any form of physiological withdrawal when they are stopped (e.g. cocaine, caffeine). However habituation is characterised by the continued desire for a drug even after the physical dependence has dissipated – if it was present – and as a result the person experiences strong cravings for the substance which often sets the process of relapse into motion (Sussman & Ames, 2009).

Substance Dependence as Defined by the DSM-IV-TR

The Diagnostic and Statistical Manual IV (DSM-IV-TR) combines the physiological aspects (namely tolerance and withdrawal) with the behavioural and psychological aspects of chemical dependency. Thus, drug dependence is defined as "a maladaptive pattern of substance use leading to clinically significant impairment or distress". This definition implies that degrees of drug use differ as do their effects on a drug user's life. Consequently, it is crucial to bear in mind that there is a difference between drug use, misuse, abuse and dependency/addiction (Frances et al., 1994, p. 181).

The DSM-IV-TR (as cited in Sadock & Sadock, 2007, p. 382) specifies that drug dependency manifests with three or more of the following symptoms at any time in the same twelve month period:

- Tolerance as defined as either a need for markedly increased amounts of the substance to achieve intoxication or the desired effect or markedly diminished effect with continued use of the same amount of the substance.
- Withdrawal occurs for the substance or the substance or a closely related substance is taken to relieve or avoid withdrawal symptoms.
- The substance is often taken in larger amounts or over a longer period that was intended.
- Persistent desire or unsuccessful efforts to cut down or control the substance use.
- A great deal of time is spent in activities necessary to obtain the substance, use the substance or recover from its effects.
- Important social, occupational or recreational activities are given up or reduced because of the substance use.
- Continued substance use despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the substance.

According to Coombs (2001) addiction can therefore be characterised chiefly by the compulsive use of a substance and loss of control over the use of that substance. Leshner (2001) and Thobaben (2009, p. 76) echo this viewpoint and sum up the essence of drug addiction as "uncontrollable,

compulsive drug craving, seeking, and use, even in the face of negative health and social consequences". And because chronic drug use creates changes in the reward circuit and irreversible alterations to brain chemistry, addiction is viewed as an incurable condition in that the user will never be able to return to a state of controlled use (Thobaben, 2009).

The National Institute on Drug Abuse (NIDA, 2009), also provides a summary of addiction and proposes that it can be conceived of as the result of the excessive and extreme use of psychoactive drugs (alcohol included). It is characterised by the loss of control over a substance which is typified by the following:

- A strong desire to use the drug.
- Difficulties in controlling its use.
- Continued use despite shocking consequences.
- Failure to fulfil familial, work and social responsibilities.

Supported by the above definitions, it becomes clear that the diagnosis of dependency no longer requires the presence of tolerance or withdrawal and greater emphasis has been placed on the compulsive nature of chemical addiction. Based on this, a number of behaviours – specifically compulsive behaviours /impulse disorders – appear to share several characteristics with chemical dependence (Miele, Tilly, First, & Frances, 1990).

2.3. BEHAVIOUR BASED ADDICTIONS OR IMPULSE CONTROL DISORDERS?

According to Marks (1990, p. 1429), the behavioural addictions can be conceptualised as "routines of dysfunctional and purposeful behaviour" and people with behavioural addictions will try to alter their mental state with a behavioural routine rather than with a chemical (Bradley, 1990). While behaviours such as gambling, shopping, sex and eating will indeed alter a person's mind/mood, they are not as easily explained in terms of neurology as the substance based addictions are (Curtiss, 2004). As a result they have often been referred to as the 'pure' addictions since the addicted person is not acting under the influence of a chemical substance (Aasved, 2002). In fact there is a significant lack of consensus over whether these activities should be classified as addictions or as impulse control disorders.

To date, six conditions can be found under the classification of impulse control disorders (ICD) namely: intermittent explosive behaviour; kleptomania; pyromania; pathological gambling; trichtillomania and impulse control disorder not otherwise specified. Much work regarding ICDs consider the various disorders as conditions characterised by "an inability to resist an intense impulse, drive, or temptation to perform a particular act that is obviously harmful to self or others or both" (Sadock & Sadock, 2007, p. 773). Furthermore, individuals are thought to experience a build up of tension and or arousal prior to engaging in the behaviour together with "conscious anticipatory pleasure". Completing the action brings about a sense of gratification and relief yet it is followed by feelings of remorse, shame and guilt (Sadock & Sadock, 2007; Holmes, 1997).

Based on the above, it would be a logical stretch to assume that ICDs could be classified as addictions. However the disparity and lack of clarification around definitions is clearly evidenced in DSM-IV-TR as addictions, compulsions and obsessions – "which are all related to the loss of voluntary control and getting trapped in repetitious, self-defeating behaviour" – are distributed and classified under an array of disorders such as substance-related disorders, caring disorders, sexual and gender identity disorders, anxiety disorders, impulse control disorders and impulse control disorders not elsewhere classified (Holden, 2000, p. 980). Subsequently, there is currently a move towards redefining addiction to encompass a concept that incorporates behavioural dependency rather than exclusively on substance dependency (Holden, 2000) and as such the most prominent of the behavioural addictions will be expanded upon in the following section.

2.3.1. Pathological gambling – the most well known behaviour to resemble addiction

Perhaps it is because pathological gambling has been the subject of intense research that an empirical body of knowledge is emerging which parallels the experience of gamblers with alcoholics and drug addicts, and as such many specialists in the field of addiction and dependency consider pathological gambling as an addiction (Holden, 2000). According to Aasved (2002, p. 3) gambling can be defined as "risking something of value on the unknown outcome of some future event [where] the ultimate goal … or ultimate hope … is to realise a value greater than that risked". While immediate connotations include notions of card games such as poker or blackjack, roulette tables, betting on sports activities and slot machines, based on the above definition gambling can also include any "speculative business venture, commodities investment or insurance purchase" (Aasved, 2002).

In a fascinating article, Holden (2000) cites Howard Shaffer – the head of the Addictions division at Harvard – explaining that gamblers display tolerance in the way that they feel the need to increase the denomination of their bets much like drug addicts shows tolerance in the way that they need to increase the dose of their drugs to feel the same high. Gamblers also exhibit forms of withdrawal (e.g. sweating, sleep disturbances, craving) that resemble mild drug withdrawal. Moreover gamblers are prone to relapse even after many years of abstinence much like addicts and alcoholics. Continuing with the comparison between gambling and substance dependence, recent research has suggested that it is useful to conceptualise gambling as existing on a continuum that ranges from social to pathological much like drug use can exist on a continuum from social to dependent (Ferris & Wayne, 2001; Petry, 2005). Interestingly, people seeking help for pathological gambling are more likely to present with alcoholism as a co-occurring SUD (Freimuth et al., 2008) and research conducted by Grant and Sternberg (2005) reported that an astonishing 70.5% of gamblers in treatment have a history of sexual addiction and the two addictions often alternate rather than presenting simultaneously.

2.3.2. Can sex be an addiction?

There is a significant lack of research concerning sex addiction, and as a result many practitioners and researchers are highly sceptical about sex addiction (Holden, 2000). One commonly cited reason for such cynicism is the belief that sex is a such a fundamental human need, that it is difficult to make the distinction between what can be considered problematic or excessive sexual behaviour and many people are of the opinion that too much sex is not a "bad thing" (Freimuth et al., 2008, p. 142; Ragan & Martin, 2000). The point to make clear is that sexual addiction is not defined by frequency (how often); quantity (how much); intensity or type of sexual behaviour. According to Freimuth et al. (2008, p. 142) sexual addiction is apparent "when a person continually fantasizes about sex, pursues sexual stimuli, or acts out risky behaviours despite adverse social, physical and psychological consequences. As the problem progresses, there is little, if any, satisfaction with sexual experiences and the need for sexual behaviour increases as does internal conflict".

When speaking of sexual addiction many people mistakenly equate it with sexually deviant behaviour such as sexual exploitation, voyeurism or exhibitionism, however the majority of sexually addictive behaviours fall within 'normal' socially acceptable practices such as masturbation,

pornography and anonymous sex (Freimuth et al., 2008). Self-identified sex addicts report experiences that are startlingly similar to that of people with addictions. For example they report obsessing about their favourite sexual practice; they feel as if they can never get enough; they feel out of control and experience severe disruptions in their normal day-to-day life as a result of it (Holden, 2000). Preliminary research into sex addiction conducted by Childress at the University of Pennsylvania in Philadelphia, reinforces the above idea as it indicated that sex addicts share a deficit in their 'inhibitory circuitry' very similar to cocaine addicts and both groups described feeling unable to stop when they were in the "big GO state" (Childress, as cited in Holden, 2000).

2.3.3. Eating disorders: are they food addictions?

Eating disorders (EDs) have been characterised as addictions because they meet the criteria for substance addictions. EDs manifest in three main forms namely anorexia nervosa, bulimia nervosa and binge eating (Freimuth et al., 2008).

The main symptom characterising Anorexia Nervosa (AN) is an individual's refusal to maintain a body weight above the minimal consideration of normal weight for the person's age and height (Holmes, 1997). In order to achieve this goal, individuals with Anorexia often display the following behaviours: strict caloric restriction, self-starvation; refusal to eat and severe weight loss (Sue, Sue, & Sue, 2003). They also suffer from an intense fear of gaining weight or of becoming fat and severe body image distortion. No matter how thin or emaciated they become, they continue to be driven by this fear, plagued by this distortion and they do not see the devastating effects their behaviours is causing (Carson, Butcher, & Mineka, 2000). As a result, they will continue their efforts at losing weight (Holmes, 1997). Alongside these symptoms, individuals with anorexia commonly suffer from obsessive compulsive behaviours and thoughts that revolve around food and exercise. For example some fear being near or even touching food while others go to great lengths to prepare meals in order to feed others (Holmes, 1997).

Bulimia Nervosa (BN) is characterised by recurring episodes of binge eating during which the person loses control over eating. In attempts to counteract the effects of their binging, individuals will either purge/vomit or fast and exercise excessively (Carson, Butcher, & Mineka, 2000). Just like Anorexia Norvosa, this eating disorder is typified with an obsessive concern with body image and weight. Individuals with this disorder – unlike those suffering from Anorexia – know that their

eating patterns are not normal and hence can become highly frustrated with themselves (Sue, Sue, & Sue, 2003). They simply cannot control their food intake once they begin a binge episode and consequently, loss of control over eating is the chief symptom of this disorder. Because of this, individuals often feel shame, guilt and disgust because of their binging and they will therefore try to hide it from others (Sue, Sue, & Sue, 2003).

The third disorder of eating – which happens to share most markers of addiction – is that of Binge Eating Disorder also commonly referred to as compulsive overeating (CO) . Much like Bulimia Nervosa, compulsive eating involves the ingestion of large quantities of food accompanied by feelings of loss of control followed by shame, guilt and disgust after a binge episode. However unlike Bulimia Nervosa, compulsive overeaters do not use methods such as purging, fasting or excessive exercise in attempts to compensate for their binging (Sue, Sue, & Sue, 2003).

In attempts to explain high rates of co-morbidity between ED and SUDs several authors have proposed that EDs and SUDs are both symptomatic of a "predisposition to addictive behaviour … or because of a common addictive personality style" (Davis & Claridge, 1998, p. 464). Furthermore, it has been suggested that both conditions are ways in which individuals manage their "ego deficits" (Davis & Claridge, 1998, p. 464) and hence they emerge as coping mechanisms.

Holden (2000) elucidates that compulsive overeating (binge eating) and bulimia also present patterns of addiction in that they contain an impulsive element to them. She explains that the person will engage in binge eating and will then experience pleasure and arousal which is closely followed by guilt, shame and remorse. Anorexia on the other hand is characterised by caloric restriction and highly rigid controlled behaviour and hence is far less impulsive in nature. In a fascinating article chronicling EDs as addictions, it was highlighted that one element that significantly impacts on the development of a SUD are the changes physiologically induced by the drug itself. So too with EDs it has been surmised that self-starvation and excessive exercise creates a dependency on the body's own natural opioid system which in turn creates a 'chemical addiction' (Davis & Claridge, 1998) and people with EDs often report feeling 'high' while they are restricting or after they have purged (S. Rahme, Personal Communication, July 15, 2011).

Not surprisingly, alcohol abuse is more common among bulimics than anorexics due to the caloric content contained in alcohol, and when individuals with AN and BN do abuse drugs they are the

ones that inhibit hunger (for example tobacco, heroin and cocaine) (Freimuth et al., 2008). Dr Salzman, (as cited in Glatt, 1974, p. 101) when speaking of compulsive overeating notes that:

> Like drug or alcohol addicts, severe cases of excessive eaters are compulsively driven to eat, not through taste or hunger – for they often stuff and gorge without any enjoyment to the point of illness – but by inner drives that they can neither understand nor control.

In drawing comparisons with the experiences of compulsive overeaters and alcoholics, Glatt (1974) proposes that compulsive overeaters display the following symptoms:

- Eating as a result of mental strain and stress.
- Eating more and more frequently.
- Denial of the full extent of food intake.
- Feelings of guilt which result in avoidance of eating in front of loved ones.
- Storing of food supplies in 'hiding places'.
- Short eating binges in the absence of company.
- Purging after a binge in order to prevent weight gain.
- Increasing feelings of guilt, shame and anxiety which are relieved by further overeating.
- Promises and resolutions to stop binge eating.
- Feelings of irritability, anxiety as a result of imposing food restriction.

Glatt (1974) notes, that just like alcoholism and drug addiction, food dependence is also a relapsing disorder as people frequently return to their destructive eating patterns and what all three categories of EDs share in common is a compulsion in that "the individual's ability to choose to discontinue the behaviours is pathologically diminished" (Davis & Claridge, 1998, p. 466).

While EDs may share enough markers outlined by the DSM-IV-TR so as to warrant consideration of these disorders as addictions, the literature is mixed when it comes to whether or not all the EDs are truly 'addictive' (Davis & Claridge, 1998). For example AN is characterised by strict control whereas BN and CO are characterised more by being 'out of control' (compulsive); usually addictions are equated with some kind of reward as they are hedonic in nature and as such this would speak more to individuals with BN and CO who use food as a 'reward' whereas individuals with AN whose lack of food intake could be seen as punishing (however it is possible that the activation of the body's endorphins and natural opioids are the reward). What is important to note

is that while EDs may present together with another addiction, they do not always do so. Yet again, if viewed strictly within the disease model of addiction, the lack of presence of another addiction would seem to indicate that if the ED is arrested the disease would merely manifest in another symptom. However this is not always the case. While it may be helpful to employ a disease model of treatment when it comes to EDs, whether or not the ED is one symptom of the disease of Addiction or a disease on its own would depend on what other conditions the patient presents with.

2.3.4. Other behavioural 'addictions'

Shopping Addiction/ Buying Addiction/ Compulsive Spending

One behaviour that has been expanded to include addiction terminology is that of shopping, and while there is an aged ingrained belief that all women love to shop, some women (and men) do so compulsively (Holden 2000). Freimuth et al., (2008, p. 147) describe buying addiction as being characterised by "a preoccupation with shopping or acquiring desired items and a felt need to make a purchase" which inevitably results in huge amounts of financial debt and a house packed and hoarded with unnecessary merchandise (Holden, 2000). Moreover these people experience feelings of anxiety and depression prior to a shopping binge and feelings of temporary relief after the shop. However, this state is transitory and is almost immediately followed by emotions of depressions, guilt and anxiety (Holden, 2000). Because shopping and eating are both forms of consumption it is not uncommon for people with buying addiction to exhibit a higher incidence of bulimia nervosa and binge eating in addition to increased incidence of SUDs especially alcohol use disorders (Freimuth et al., 2008).

Work Addiction

The idea of work addiction is often associated with long working hours, and while long work hours do contribute to health related problems and are not associated with improving happiness, they don't always indicate a work addiction. Some people can be described as "work enthusiasts" who genuinely "enjoy their work, have little need for leisure and are striving to improve their material well-being" (Freimuth et al., 2008, p. 145). These people experience high levels of job satisfaction in comparison to people with legitimate work addiction who experience low job satisfaction (Freimuth

et al., 2008). To this end Robinson (2007, p. 7) defines work addiction as "self imposed demands, an inability to regulate work habits, and an overindulgence in work to the exclusion of most other life activities". An interesting idea to contemplate is that the ease with which work can now be accessed via wireless internet means that people can literally take their work with them wherever they go and as a result technological advancement may play a significant role in the development of work addiction (Robinson, 2007).

Internet Addiction

Internet addiction is the latest 'addiction' to be identified as a way in which people's lives are controlled by an external stimulus, and it has been labelled the new 'plug-in-drug' (Freimuth et al., 2008). However, Holden (2000) raises an interesting point for consideration: "the things people are addicted to on the Net are the same things people get hooked on without it" for example online gambling, pornography and shopping. Thus the question arises: is it the technology that people are hooked on or the behaviours it enables people to connect to just via different means? (Holden, 2000). In addition the challenge in identifying a true technological addiction lies in the fact that in today's times the internet has become a necessity (Freimuth et al., 2008), and as such much debate has been raised about how to distinguish an addiction from a highly engaging behaviour (Grohol, 2005; Song, LaRose, Eastin, & Lin, 2004).

Exercise addiction

Because exercise is considered as an activity which is both physically and psychologically beneficial, it has been regarded sceptically as to whether or not it can develop into an addiction and whilst it is true that it is rare, some people exercise excessively "without limits …and to damaging degrees" (Terry et al., 2004, p. 489). According to Sachs (as cited in Terry et al., 2004) addicted exercisers exercise for intrinsic reward, view exercise as a central part of their lives and experience disturbing sensations when they cannot exercise. Frequently people with EDs have a co-occurring exercise addiction and while exercise addiction can stand on its own as an addiction it commonly exists within those with EDs (Bamber, Cockerill, Rodgers, & Carroll, 2000).

Excessive exercise has often been referred to as a positive addiction denoting that it is an activity that is predominately valuable whereas drinking, using drugs or self-harm are considered as self-

destructive. Interestingly, many runners who exercise compulsively drew on the positive aspects of their activity and introduced the idea of 'strong commitment' as a euphemism for a 'positive addiction' (Bamber, Cockerill, Rodgers, & Carroll, 2000). However in the case of true compulsive and addictive exercise (as with any addiction) in the long run the effect is always negative which poses the question: can any addiction be positive?

Self-mutilation

Self-mutilation (SM) – also known as self-harm and self-injury (Adler & Adler, 2007)– can be defined as: "the conscious intent to harm oneself by a repetitive pattern of low lethality, socially unacceptable behavior that results in the actual physical alteration of the body" (Turell & Armsworth, 2003, p. 488). In a study conducted by Favazzo and Conterio (as cited in Matthews & Wallis, 2002) the major forms of non-life-threatening self injury included: superficial cutting, burning, hitting, punching, disruption of wound healing, scratching hair pulling and breaking bones and was most prevalent amongst young Caucasian women (Adler & Adler, 2007; Mattews & Wallis, 2002).

SM is believed to consist of three categories: major, stereotypic and moderate/superficial (McDonald, 2006). Major SM refers to extreme and serious tissue damage that is most commonly linked to psychosis, stereotypic SM refers to patterns of self harm that are most frequently linked to the autism, Tourette Syndrome and mental retardation, whereas moderate/superficial SM includes behaviours such as skin picking, cutting and burning which are usually performed with knives, razors, pins and blades (McDonald, 2006). It is within this last category, that SM is further divided into compulsive (many times a day), episodic (now and then) and repetitive (when episodic SM becomes a pre-occupation) (McDonald, 2006).

Because SM has been identified as a means in which a build up of tension and conflict is relieved (Mattews & Wallis, 2002), it is often viewed as an impulse control disorder and a way in which individuals reduce emotional stress i.e. for the purposes of emotional regulation (McDonald, 2006; Shapiro, 2008). Exploration into the reasons behind SM conducted by Nock (2009) yielded that people who self-injure do so to decrease unwanted feelings and to increase wanted feelings, while according to Lang and Sharma-Patel (2011, p. 23) the two reasons that most account for SM are: "to modulate overwhelming emotional states and to disrupt a sense of numbness". Callahan (as

cited in Adler & Alder, 2007, p. 540) echoes this as he notes: SM "provides a sense of control, reconfirms the presence of one's own body, dulls feelings and coverts unbearable emotional pain into manageable physical pain". However due to the temporary nature of the 'relief state', patterns of SM often become repetitive which results in an 'addiction' to the behaviour (Matthews & Wallis, 2002). Hence it is not uncommon to hear claims from people who self-mutilate, that the behaviour is addictive (McDonald, 2006).

According to Adler and Adler (2007), most research concerning SM has been generated from the medical and psychiatric paradigms and as such, the treatment of it is often based within these orientations. SM has been associated with poor impulse control, a propensity to develop an eating disorder and has been linked to addiction to drugs and alcohol (Matthews & Wallis, 2002). However it is most frequently tied to a diagnosis of a latent personality disorder specifically Borderline Personality Disorder (BPD) (McDonald, 2006; Nock, 2009; Shapiro, 2008). Consequently, assessment of SM is often done in parallel with psychiatric evaluation as it is often conceptualised as a manifestation of psychiatric illness (Matthews & Wallis, 2002).

However, over time it has started to emerge that not all people who self-mutilate are "clinical inpatients" (Adler & Adler, 2007, p. 538), furthermore not all people who self-injure are impulsive. In their research, Adler and Alder encountered several people who self-injure who were able to delay their self-injury and who performed the act in "an intentional, planned and deferred manner" (Adler & Adler, 2007, p. 552). Consequently, currently within the DSM-IV-TR, SM is not characterised as a disorder itself but rather as a symptom of several other disorders which generally include problematic impulse control for example BPD, Antisocial Personality Disorder, Histrionic Personality Disorder, Post Traumatic Stress Disorder, various Dissociative Disorders, Eating Disorders, Depressive Disorders and SUD (Adler & Adler, 2007) and as a result it cannot be considered solely as a symptom of psychiatric disorder (Nock, 2009). Furthermore, as noted by McDonald (2006), due to a rise in incidence of SM, there is currently a movement of scholars advocating for consideration of SM in the DSM-IV-TR as its own mental disorder.

Initially viewed as a "sinful and evil", SM has joined the "rubric of the disease model" (Adler & Adler, 2007, p. 539), and whilst it is useful to view SM as a symptom of many possible 'bigger' illnesses, this view (i.e. that it is a symptom of something larger) opens another proverbial 'can of worms' when it comes to treatment. For example in the case of a young adolescent who presents

solely with SM, a plethora of questions will need to be contemplated in order to inform an appropriate treatment plan namely: is the SM a symptom of an underlying personality disorder? Can SM ever present on its own as a disease in its own right? Is it a symptom of the disease of Addiction? Is it a precursor to the development of an eating disorder? If the SM is treated, does that ensure that subsequent disorders will not ensue? If the SM is treated, will the patient cross-addict as the disease of Addiction fights for expression in another manner? Moreover because of the link between SUDs and secondary psychiatric diagnoses (dual diagnoses), is the SM a symptom of the psychiatric illness or is it a symptom of the disease of Addiction?

Subsequently, while one form of SM – moderate/superficial repetitive SM – does seem to mimic patterns of other addictive processes, not all forms of SM are necessarily 'addictive' and as such, practitioners working in the field would need to have insight into the various forms SM takes before diagnosing its presence. Moreover due to the fact that SM commonly features as a co-morbid condition with SUDs, eating disorders and psychiatric disorders, it is unclear as to what it is symptomatic of when it is present within a cluster of symptoms that are themselves often considered symptomatic of something else. Compounding issues further, there is a significant lack of consensus over what the 'something else' is i.e. is it the disease of Addiction, is it psychiatric disorder, is it as a result of trauma, or is it a disorder of impulse control?

2.4. WHAT DO ALL 'ADDICTIONS' HAVE IN COMMON?

What is generally agreed upon, is that regardless of whether a person suffers from a chemical addiction or a behavioural impulse control disorder, they share many elements in common and such similarities are often thought to be the cause for the logical expansion of addiction terminology in the description of these behaviours (Martin & Petry, 2005; Morahan-Martin, 2005). While this has resulted in the consideration of many of these behaviours as true addictions in their own right, pathological gambling is the only excessive behaviour that currently carries a diagnosis in the DSM-IV-TR (Petry, 2006).

Admittedly, there is discussion regarding the inclusion of excessive behavioural conditions within the classification of addictive disorders, however this has not occurred as of yet (Petry, 2006). Nonetheless, several authors (Coleman-Kennedy & Pendley, 2002; Giddens, 2007; Morahan-Martin,

2005; Peterson, 2004; Potenza, 2006; Young, 2004) have written of the elements that appear to be present across the board of 'addictions'. They include:

a) Diminished control over or total loss over the behaviour.
b) The behaviour appears obsessive and compulsive.
c) Pre-occupation with the behaviour or the use of the substance/device.
d) A sense of loss, disequilibrium, distress or craving when the object/substance/ is unavailable or the behaviour is stopped (can also be thought of as a 'craving state' that occurs prior to the engagement with the behaviour/compulsion).
e) Continued use despite problems that may have arisen as a result of the behaviour.

Griffith (2002) has refined the components of addictions and has identified five core characteristics common amongst all addictions:

1. Salience: the activity becomes the most important activity in the person's life and consequently it dominates their thinking, feelings and behaviour.
2. Mood modification: the activity is used to alter the person's mood state (this is often thought of as a coping strategy).
3. Tolerance: more and more of the activity is needed to experience former effects.
4. Conflict: this may refer to conflict with others or conflict with the self. In the case of external conflict loved ones, employers, friends and so on may argue or fight with the addicted person because they are concerned about the extent of the person's behaviour. In the case of internal conflict the person may intrinsically know what he/she is doing is 'wrong' and that he/she is harming him/herself and others but cannot stop. This can be thought of as a tug-of-war, love/hate type of relationship between the person and the addiction which creates a deep sense of inner turmoil.
5. Relapse: the tendency for repeated returns to the behaviour and the high likelihood that the addiction returns to its pinnacle in terms of severity despite years of abstinence and remission.

3. CONCLUSION

3.1. EXPANDING THE CONCEPT OF DEPENDENCY TO INCLUDE SUBSTANCE BASED AND BEHAVIOURAL BASED ADDICTIONS: IS THIS THE NEXT STEP?

The move towards broadening the scope of addiction terminology to include behavioural addictions (also commonly referred to as 'driven behaviours' and 'appetitive behaviour problems') has not been an easy one. One reason for this has been due to the fact that addiction terminology within the addiction field and amongst addiction professionals is not used in a universal and standardised manner (Kelly, 2004). As a result, phrases, words and terms unique to the addiction field are often employed cross contextually with no formal explanations (Aasved, 2002; Kelly, 2004). There has thus been a call to abandon the term dependency and move towards using the term addiction (Kranzler & Li, 2008). This is due to the fact that dependency can be defined in various manners (as outlined in this chapter) which don't always include the harmful effects of addiction (for example drug seeking behaviours). Thus, it has been proposed that by employing the correct terminology, a shift might occur from viewing addiction solely in terms of substance use (Potenza, 2006). While the section above has aimed to discuss current behaviours which seem to share many elements in common with SUDs, the question remains: are these similarities enough to warrant a 'diagnosis' of addiction?

In order to fully comprehend the manner in which a dependency is formed, it is useful to examine the process in which this occurs together with the various frameworks in which to understand why it happens. Consequently, this will be the focus of the chapter that follows.

CHAPTER 3

REVIEW OF THE LITERATURE

DEVELOPMENT OF ADDICTION

1. INTRODUCTION

Perhaps one of the biggest obstacles that addicted people initially face, is coming to terms with the possibility that they have an addiction. For many professionals and addicted persons, several multifaceted questions are continually a source of much contemplation such as 'Who becomes an addict?'; 'How much is too much?'; 'Why do some people develop addictions and others don't?'; 'At what point does social drinking/ recreational drug use/gambling become problematic?'; 'What causes addictions?'. This chapter will aim to outline the process involved in the creation of dependency together with the plethora of explanations that have been drawn upon in attempts to understand the complexities of addictions.

2. HOW DOES SOMEONE GET ADDICTED?

Addiction is not something that develops overnight for any individual and generally there are a series of steps that an individual will go through from experimentation and occasional use to a place of no control and compulsion. When it occurs, it is most certainly in a context of social, cultural and psychological factors that determine the how, where and when of drug taking. In fact, prior to a person's initial experience with drugs or alcohol, he/she has expectations and conceptions (whether they are right or wrong) about many of these substances and how they affect people (Jung, 2001). Furthermore, dependency on alcohol and drugs does not occur instantaneously and the process from initial drug use to the final stages of dependency/addiction is developmental (Jung, 2001). While the course described below depicts the development of dependency on alcohol and substances, it has been applied to the development of many behavioural addictions as well[1].

[1] The term 'use' although commonly used to describe the use of substances, can also be considered to refer to the use of drug(s) and/ behaviour(s) so as to indicate the activity of the addiction. In this light, recovering addicts often refer to their days prior to recovery as 'active addiction'.

2.1. THE PROCESS OF DEPENDENCY

Some people will never ever use an addictive substance or behaviour. Others may do so and will go through life as social or recreational users, others may abuse substances and behaviours and for some their use will become addictive (Henderson, 2000). The following section will outline the progression of use from the stage where one is considered a social drinker/recreational user to the final stage where one is considered addicted.

Stage 1 – the exploratory phase

There are several stages involved in the process of dependency or addiction. The first stage is often referred to as the exploratory phase, the experimental phase or the beginning stage. Initial use is driven by a range of factors for example curiosity, peer pressure, intrapersonal factors or crisis and all can provide sufficient cause for circumstantial and experimental use (Bozarth, 1990). Within this stage, these users are able to use the substance/behaviour periodically and may continue to do so indefinitely throughout their lives, if their use does not result in adverse or negative consequences. These users are able to maintain control over the substance/behaviour and hence are often referred to as social or recreational users (Henderson, 2000).

Stage 2 – Casual use

If the drug/behaviour is done repeatedly, a period of causal use often develops. This stage is often referred to as the recreational stage (www.addictions.org, 2009) or as social use (George, 1990) and is characterized by more frequent use of the drug or behaviour (Bozarth, 1990). George (1990) notes that this stage is often the stage in which people begin to use in social situations as it is now considered alright to do drugs or engage in the behaviour when the situation is deemed appropriate. However, rules are developed for when using is appropriate and these rules are generally adhered to. The challenge in this stage is recognising that it is not about the quantity used or frequency of use but *when* the person is using and what behavioural changes occur.

Stage 3 – the abusive phase

The now repeated use of the drug or behaviour results in what is referred to as abuse and the third stage in the process is therefore referred to as the abusive phase ("Drug Addiction and Drug Abuse", 2009). With regards to drugs, drug abuse refers to the misuse of legal and illegal drugs which are frequently socially disapproved of and as a result drug abuse is often considered as deviant drug use (Akers, 1992). The frequency of use increases even more as the individual seeks higher doses of the drug/behaviour in order to achieve the same effect he/she felt in the last two stages.

In the case of substances, more effective routes of administration are explored (i.e. from snorting to injecting) and severe and intense patterns of drug use begin to develop (Bozarth, 1990). With reference to sex addiction often sex addicts will progress from viewing 'soft porn' to 'hard porn'; gamblers will increase their monetary bets; compulsive overeaters will increase the volume of food they consume and so on.

George (1990) coins this phase the preoccupation phase as the use moves from social situations to becoming a major part of the person's life**.** Other characteristics of this phase as outlined by George (1990) include: more and more of the person's time, energy and money are spent on drugs (gambling/food/sex and so forth); chemicals/gambling/sex/food are now the best thing in the person's life not sport, family or friends; the focus is on how and when the person can use; few activities do not include using and the person may come to regard this as normal; problems with work, family or friends may cause the person to 'cut down' or 'quit' but this effort rarely lasts more than a few days or weeks; periods of abstinence add to the delusion that he/she can stop when ever he/she wants to and that there is no problem (George, 1990).

The transition from social use to preoccupation involves a changing of the rules. The pattern that develops is that as drugs (food/sex/gambling etc.) become more and more a part of the person's life, the substance/behaviour and the effects of the substance/behaviour are seen as predictable. Thus the person cannot see that their behaviour is changing. Friends and family however react to the change in behaviour and this leads the person to assume that his/her friends and family are not predictable. As a result stability in the person's life comes from their addiction not from relationships with others (George, 1990).

Stage 4 – dependency

The continuation of these patterns of abuse eventually results in compulsive use and the individual's use finally progresses on to the final stage known as addiction or dependency. It is within this final stage that the individual experiences a total loss of control and the need for the drug/behaviour becomes of overriding importance ("Drug Addiction and Drug Abuse", 2009). The American Psychiatric Publishing Textbook on Substance Abuse (4th ed.) echoes this as it is noted that when individuals moves from "one domain (substance use) to another (addiction), changes occur in neurobiological mechanisms that result in "addiction [being] conceptualized as a chronic, relapsing disorder with roots in both impulsivity and compulsivity" (online text).

According to Henderson (2000) it is within this stage that the addiction can be compared to a disorder of will in that once the addiction cements, the person's will is overtaken by the need to use. As a result, what often occurs is that the person uses in greater amounts and with more consistency than originally intended. Consequently the person's priorities change as the overwhelming need to drink/drug/gamble/eat/have sex etc. becomes of paramount importance and hence a variety of addiction seeking behaviours emerge for example lying, stealing and general irresponsibility (Henderson,2000).

According to George (1990) the only thing that matters in this phase is using, negative personal feelings (such as low self-image; self-hatred; guilt; shame) have been building up and the person now seeks daily or even hourly relief from them. In addition the person cannot distinguish ordinary from addiction-related behaviour, as being 'high' is associated with being normal. This delusion cannot be broken with any rational or moral argument despite evidence that the person's using is out of control and creating major problems in his/her life. The person will continue to insist there is no problem and that he/she can quit whenever and at will. This is often referred to as tunnel vision as the dependency has blinded the person to its consequences despite the reality that major changes have taken place in the person's life. Such changes include: poor work performance, debt, illegal activity, deteriorating health, casual sexual involvement and a change of peer group is not atypical. By this stage parents, friends, husbands, wives and other loved ones have frequently 'given up'. Addiction seeking behaviours often include stealing, lying, selling drugs, vandalism and prostitution. Physical effects also become evident for example loss of weight, increase in various illnesses, memory problems and depression and suicide and suicidal ideation are also common.

What becomes evident in the final stage – and what differentiates this stage from the abusive phase – is a). a loss of control over the substance and b). continued use despite negative consequences (Henderson, 2000).

2.2. FURTHER FACTORS THAT INFLUENCE THE DEVELOPMENT OF DEPENDENCY

Although the process outlined above aids in understanding how people move from experimenting towards dependency, there are various other factors that also contribute to this process (O'Brien, 2003). These include:

- Type of addiction (i.e. is it a substance or behaviour).
- Category of drug used if substance (i.e. depressant, stimulant, hallucinogenic).
- Composition of drug (i.e. how toxic is the drug).
- Individual differences (gender, age, weight etc.).

With regards to chemical addiction, a further factor that contributes to the process of how quickly a person progresses on the continuum is the particular substance involved. Specific substances in a dependency play a strong role with regard to its potential effects and consequences (Gersabeck, 2001). In other words, dependency may develop quicker with certain drugs depending on what drug is used. For example crack cocaine is thought to create dependency almost instantaneously whereas marijuana use can take several years for dependency to develop (Gersaback, 2001). Bozarth (1994) notes that drugs like cocaine, ecstasy, heroin and morphine are potent reward drugs and the reinforcing properties of the drug itself can form the basis for drug addiction.

3. AETIOLOGICAL THEORIES OF ADDICTION – WHY DO PEOPLE DEVELOP ADDICTIONS?

The task of explaining the reasons that motivate people to use drugs/alcohol, gamble or shop, eat, have sex or work excessively and compulsively (despite the damage it may cause them) is a complicated undertaking. This is largely due to the fact that the question of why people do this is a complex one and the answer to the question will vary from person to person, from situation to situation and from addiction to addiction. This is highlighted with the examples that some drug users/gamblers/drinkers/over eaters/ under eaters etc. are able to quit on their own – with varying

difficulty – and in a sense 'outgrow' their addiction, while others become exceptionally dependent and addicted to the substance/behaviour and simply cannot quit (Jung, 2001).

A range of theories exist which look to explain the factors that lead people to use drugs and alcohol, and the age old debate between nature or nurture, genetics or environment entails the understanding of a complex relationship (Jung, 2001). While each theory explores either the physiological, affective, cognitive or social/psychological causes of addiction, it is useful to conceptualise them as complementary theories that focus on different aspects of substance abuse that may be more significant at different points in time in the development of addiction (Jung, 2001). As substance abuse and alcohol abuse are two of the most common addictions to have received academic attention, a variety of theories concerning drug and alcohol addiction are presented in the section that follows. Where possible, current and valid theories have also been included that speak to specific types of addictions. Overall, they can also be thought of as compelling explanations that may also contribute in the development of various other dependencies.

3.1. MORAL THEORY

The conceptualisation of addiction has resulted in a myriad of different perspectives and aetiological theories of substance abuse. Initially drug dependency, alcoholism and gambling were seen as the result of a moral and ethical failing. This resulted in the emergence of moral theory which postulated that substance abuse and problematic gambling was the result of human overindulgence, moral degradation and a lack of willpower (Aasved, 2002; Erickson, 2001). Drunkenness, alcohol dependency and gambling were viewed as sinful and shameful (Erikson, 2001). They were viewed as a reflection of an individual's disgraceful weakness and people who had alcohol-related problems were regarded as a threat to society (Erickson, 2001). Interestingly, one reason gambling was seen as "unquestionably immoral and, as such, displeasing to God" (Aasved, 2002, p. 5) was due to the fact that it threatened to undermine a fundamental belief of Protestant capitalistic society namely that wealth should be reserved for those who earned it through "hard work, sacrifice and frugality" (Aasved, 2002, p. 6). Thus any money gained from alternative means was seen as "ill-gotten and tainted" and gambling as an activity was lumped under the headings of "vice" and "deviance" alongside drugs, alcohol and homosexuality (Aasved, 2002).

3.1.1. Criticisms of moral theory

Based on the moral model of understanding 'deviant' human behaviour, it was assumed that the problem could be cured with willpower and a desire to stop as the behaviour was under the control of the individual (Barlow & Durand, 2005; Interlandi, 2008; Leshner, 2001; Stevens & Smith, 2001). This approach to understanding addiction did not acknowledge substance abuse problems as disorders in their own right. Rather, they were seen as symptoms of sociopathic personality disturbances and early editions of the DSM classified them as such. Problems that plague this theory include the fact that the role of genetics is completely ignored and as such trans-generational transmission of addictions within families cannot be explained (Barlow & Durand, 2005). Furthermore by viewing addiction as a result of willpower and 'choice', concepts such as compulsion and craving are not explained which is grossly incongruent with the experiences of many addicts (West & Hardy, 2005).

3.2. GENETIC THEORY AND CONTRIBUTING BIOLOGICAL FACTORS

3.2.1. The hereditary role of genes

Genetic theories on the other hand cite inherited genes as the cause of substance abuse which implies that some people may be genetically vulnerable to drug abuse and or dependency (Barlow & Durand, 2005; Stevens & Smith, 2001). Observations that family members tend to have similar alcohol and or drug problems have been used as the foundation for the argument that genetics play a major role in drug and alcohol dependency. In fact, alcoholics are five times more likely than non alcoholics to have an alcoholic relative and twin studies have shown that there is a genetic basis for the dependency on drugs other than alcohol (Anthenelli & Schuckit, 1997; Jung 2001; Stanton, 1999). As a result, the term 'proband' was developed and is used to refer to individuals who are assumed to be at risk for alcohol and drug dependency due to having one biological parent with a similar problem (obviously the risk increases if both parents have drug and or alcohol problems). The role of genetics has gained increasing popularity and many scientists have tried to analyse genetic material that will provide empirical support for an inherited biological basis for alcohol and drug dependency (Erickson, 2001; Jung, 2001; Sadock & Sadock, 2007).

3.2.2. The addictive personality – does such a thing exist?

While there is empirical evidence that addiction is often the result of genetic predisposition and environmental factors, there is currently growing support for the notion of the 'addictive personality'. According to this theory, the addictive personality is "a distinct psychological trait that predisposes particular individuals to addictions" (Curtiss, 2004, p. 1). Based on this theory, one would assume that addiction is a pervasive condition and a person with a cocaine addiction (for example) would most likely be addicted to other substances and behaviours (Eisenman, Dantzker, & Ellis, 2004). While this theory lacks proof and the general school of thought is that addiction is more likely to be the product of biological, psychological and environmental factors (Curtiss, 2004), much scientific research has been conducted which does in fact highlight several personality traits that are associated with individuals with substance use disorders. In fact pathological gamblers and people with substance use disorders generally score high on measures of impulsivity and sensation seeking (Blaszczynski, Steel & McConaghy, 1997; Potenza, 2006) and lower on measures of self-regulation and risk-reward decision making (Potenza, 2006). Tarter and Edwards (1988) also note that individuals who have poor control of their emotions, high levels of impulsivity and impaired behavioural self regulation are also at risk for substance related disorders.

Possible characteristics of the addictive personality

Impulsivity

A central concept inherent in impulse control disorders is the element of **impulsivity**. Potenza (2006, p. 143) defines this as "a predisposition toward rapid, unplanned, reactions to internal or external stimuli without regard to the negative consequences of these reactions". Based on this definition, all addictions share this key feature.

Miele et al., (1990) propose that when speaking of impulsivity (which is common amongst addicted persons), it is important to understand the distinction between impulsive and compulsive behaviour. According to them, what distinguishes the two is the drive behind the behaviour. The initial driver of impulsive behaviour is the desire to experience pleasure whereas the driver of compulsive behaviour is the desire to avoid anxiety and discomfort. Koob (2008, Chapter 1, para 1)

in the American Psychiatric Publishing Textbook on Substance Abuse Treatment (4th ed.), explains that:

> subjects with impulse control disorders experience an increasing sense of tension or arousal before committing an impulsive act; pleasure, gratification, or relief at the time of committing the act; and, finally, regret, self-reproach, or guilt following the act. In contrast, individuals with compulsive disorders experience anxiety and stress before committing a compulsive, repetitive behaviour and then relief from the stress by performing the compulsive behaviour

However in the case of substance use, as the behaviour accelerates, the boundary between the two becomes increasingly blurred. In the context of addiction, many people initially have high levels of impulsivity (pleasure driven) and as they engage in the behaviour more frequently, they develop compulsion (avoidance driven) (Miele et al., 1990).

Sensation Seeking

Sensation seeking has been defined as "a personality trait in which individuals are considered to vary in their ability to tolerate sensations of all types, characterised by the extent of a person's desire for novelty and intensity of sensory stimulation" (Pizam et al., 2004, p. 252). Because it refers to an individual's propensity to seek out and engage in new and varied experiences, it can be conceptualised as a multifaceted trait which includes components such as risk-taking; thrill and adventure seeking; disinhibition and susceptibility to boredom (Joseph, Liu, Jiang, Lynman, & Kelly, 2009).

Based on this, individuals with high levels of sensation seeking (also known as high sensation seekers or HSS) display tendencies to seek out and engage in novel and diverse activities even if they involve a significant amount of risk. Hence these individuals are "more vulnerable to drug abuse and are more likely to engage in risky sexual behaviour or excessive gambling" (Joseph et al., 2009, p. 215).

Because high levels of sensation seeking has been linked to increased risk for drug abuse and other negative behavioural outcomes, it has been proposed that HSSs have overactive approach systems and dampened avoidance systems (Joseph et al., 2009). This was reported by Childress in the segment *The Science of Relapse* (as cited in Hoffman, Froemke, & Cormier, 2006), as she explained that the brain has two main systems: the 'go' system which aids the body in responding to natural

rewards which are essential to survival and the 'stop' system located in the frontal lobes which assists with decision making and helps one weigh up the consequences of one's impulses. When things are functioning optimally these two systems are interlinked and are in constant communication with one another. They help a person take stock of a situation so that a decision can be made on when to 'go' or when to 'stop'. With the addicted brain however, it appears as if these two systems have lost communication with one another and have become "functionally disconnected". As a result it seems as if the 'go' system is in control and has "run off like a rogue system" and is not interacting in an integrated way with the 'stop' system (Hoffman, Froemke, & Cormier, 2006).

In an interesting piece of research conducted by Win et al. (2006), the relationship between ecstasy, depression, impulsivity and sensation seeking was investigated. It was hypothesised that ecstasy causes damage to the serotonergic (5-HT) axons which not only adjusts many of the body's physiological and neuropsychological functions, and was also believed to "influence behavioural and psychopathological processes such as mood, anxiety, aggression, sexual behaviour, binge eating, sensation seeking and impulsivity" (Win et al., 2006, p. 227). Consequently this ecstasy induced serotonergic depletion was believed to increase depression, impulsivity and sensation seeking. While the research itself is very promising in linking ecstasy use to personality traits such as impulsivity and sensation seeking, the researchers caution against making causal conclusions about the two variables as they involve a two-case scenario. In the first case it is possible that personality traits such as impulsivity and sensation seeking exist prior to drug use and hence act as predictors, however it can also be the case that these traits arise as a consequence of repetitive exposure to ecstasy use (Win et al., 2006).

Poor Self regulation

The degree of control that a person feels that he/she has over his/her life is an important contributor to a general sense of wellbeing (Eisenman et al., 2004). When things happen in a person's life that creates a sense of imbalance or disharmony, an individual will try to control their environment so as to cope with the demands of life. Some people are able to do this and gain a sense of mastery and control over their lives and the things that are happening to them (self-regulation) and others are not. Others feel a loss of control over their lives and an inability to cope with their circumstances, and as a result they become dependent on something outside of

themselves to feel in control or to feel competent (Eisenman et al., 2004). If this is conceptualised on a continuum, self regulation would sit on one end and addiction on the other and "the inability to regulate oneself or to control the events in one's life can be a major problem" (Eisenman, 2004, p. 116). Brook, Pahl, & Rubenstone (2008) note that individuals who are impulsive and lack emotional control are more likely to abuse or be dependent on alcohol or drugs. Furthermore there is evidence that a person who lacks control in one area will likely have additional issues in other areas (Eisenman et al., 2004). Interesting research conducted by Taber (2005) appears to confirm this as it was noted that in cases where addiction had advanced to the point that an individual had sought treatment, it was often the rule rather than the exception that the substance addiction did not occur in isolation but rather was one of multiple addictions.

Interpersonal relatedness

A further dimension that is believed to be associated with drug use, abuse, and dependence is that of interpersonal relatedness. Galanter and Kleber (2008) propose that individuals who experience problems establishing or maintaining relationships with others are at an increased risk for drug abuse or dependence. And while there is a multitude of literature that highlights this, research points to two specific aspects of these problems (namely insecure attachment and avoidant personality) that are associated with increased alcohol or drug abuse and dependence in adulthood (Galanter & Kleber, 2008)

3.2.3. The Reward Deficiency Syndrome

As of late, individual differences in the doses of dopamine (a neurotransmitter associated with a positive mental state) released by the brain were documented. It is believed that dopamine release is associated particularly with the D2 gene, specifically the variant called Al allele. As psychoactive drugs activate the release of dopamine, it has been hypothesised that a dopamine deficiency will cause individuals to engage in behaviours that compensate for lowered levels of dopamine by activating the release of dopamine such as drug taking, binge eating and other high risk behaviours such as gambling. Subsequently it has been proposed that individuals who are chemically dependent have a greater likelihood of having the D2 gene than those who are not (Jung, 2001) and are indicative of what has become known as The Reward Deficiency Syndrome (Durrant & Thakker, 2003).

3.2.4. Vulnerability models

Sher (1991) speaks of vulnerability models with regards to the role of biological factors which emphasise that people differ in their temperament and biological sensitivity to stimulation. In the enhanced reinforcement model, it is suggested that greater sensitivity to drugs increases the likelihood that alcohol and drugs will function effectively in stress reduction, especially for individuals who have otherwise not acquired productive coping skills. Moreover, lowered sensitivity to intoxication may mean that drug/alcohol problems develop because certain people have higher tolerance to the drug or alcohol. This causes the person to use higher doses or quantities of alcohol in order to obtain the desired effects. Differences in temperaments make certain individuals more prone to anxiety and depression. The negative affect model speaks to this, as it proposes that negative emotions propel some people to self medicate their feelings and stressful life events and most psychoactive drugs release neurotransmitters that are associated with feelings of reward and pleasure such as dopamine, serotonin, glutamate and acetylcholine. Therefore a lack of good coping skills coupled with a person's nature and character has often been associated with the onset of substance abuse problems (Jung, 2001).

3.2.5. Psychiatric problems and Co-morbid disorders

Another biological factor that is associated with alcohol and drug problems is the existence of pre-morbid psychiatric problems. Subsequently there are high rates of co-morbidity among substance users with personality disorders such as antisocial personality and borderline personality (Erikson, 2001). Sadock and Sadock (2007) echo this and they estimate that up to 50% of addicts have a co-morbid psychiatric disorder. The co-existence of substance abuse disorders and personality disorders has often raised the debate over whether people self medicate their psychiatric condition with drugs or whether the drugs exacerbate the psychiatric problem or even present as a psychiatric problem (Alterman et al., 1998; Hotzeroth & Kramer, 2010; Tarter, Moss, & Laird, 1990). If an example is used to illustrate this debate: are the auditory hallucinations a patient hears a symptom of his schizophrenia or are they a result of a two day methamphetamine binge?

One large scale international study which was conducted over six study sites in Europe and North America reported that 45% of their subjects with drug dependence also met the criteria for anxiety disorder which preceded the SUD. Contrasting, mood disorders were found to usually develop after

the onset of the SUD. This study raised the possibility that anxiety (a chronic experience of stress) can be considered as a causal link to vulnerability to the development of SUD (Uhart & Wand, 2008).

In addition, it has been proposed that individuals with ICDs often exhibit low levels of serotonin (which serves to inhibit behaviour) and as such, low levels of serotonin have been thought to contribute to impulsive behaviour. Furthermore, it has been established that there is a link between ICDs and depression which is explainable due to low levels of serotonin and as such the use of anti-depressants – which increase serotonin – is believed to be effective in treating these disorders (Holmes, 1997).

3.2.6. Criticisms of genetic theory

Despite the emphasis on genetics in the development of drug dependency, it is often counteracted with the argument that family members share the same environment which could contribute to the dependency. Furthermore, a large percentage of children with no alcoholism in the family still develop alcohol dependency without the genetic factors that are assumed to account for alcoholism for people who come from alcoholic families. It is therefore difficult to ascertain precisely how much can be assigned to the role of genetics and the environment (Erickson, 2001; Jung, 2001).

3.3. SYSTEMS THEORY AND CONTRIBUTING ENVIRONMENTAL FACTORS

3.3.1. Trans-generational transmission

Another explanation can be found in systems theory which examines the environment and interactions with others (specifically the family of origin) for trans-generational transmission of substance abuse (Stevens & Smith, 2001).

According to Doweiko (1999), systems theory attempts to analyse trans-generational patterns and dynamics within the family structure in order to assess the factors that could be considered as causative in the development of substance abuse disorders. It has been an accepted premise that dysfunctional patterns exist in families that include an alcoholic or substance abuser and moreover

these unhealthy patterns become entrenched in the family system and eventually pass down from generation to generation (Erickson, 2001). Furthermore, in adapting to the presence of an alcoholic or drug user, it is common for the roles family members take on, to change. It is also common for the distribution of power to change amongst family members. In other words, the family system undergoes a huge shift in order to accommodate the substance abuser as the family adopts new ways in which to function. Once the system becomes relatively stable there is great pressure to retain the new order and as a result there is a need for individuals not to change too much or too quickly. If they do change rapidly it would mean another adjustment of the family system (Doweiko, 1999). However once the family accepts their new roles and new patterns of interaction, and once all the changes to the family structure are in place, they actually support the addiction. And although the new roles and patterns of interaction "allow for survival in an unbalanced family, the cost to the child may be great, and when carried into adulthood these roles become dysfunctional" (Erickson, 2001, p. 91).

3.3.2. Family interaction theory

Family interaction theory is another theory that is closely linked to systems theory and it looks to the type of bonding and attachment that exists between child and parent; value systems of the family and parenting styles as indicators of risk for substance abuse. For example, it is believed that children who have healthy attachment to parents, affectionate parents and conventional values are less likely to dabble with drugs and will have fewer associations with drug using peers (Brook, Brook, Gordon, Whiteman, & Cohen, 1990).

Abuse and neglect are unfortunately typical in homes of alcoholics or drug users (Nowinski, 1990). Poor reinforcement from the home and unstable family life may encourage teenagers to turn to drugs as a means of coping with family conflict and disintegration. In addition poor recognition and encouragement from the school environment may result in poor academic skills and interpersonal skill. Therefore the social development model posits that weak bonds to family, parents, teachers and peers may contribute to the development of drug use, and youth at risk are typically non-conforming, rebellious and alienated (Jung, 2001).

Poor socialisation regarding the rules of social behaviour has also been described as a factor that contributes to conduct disorders and eventual drug and or alcohol abuse. Problem Behaviour

Theory cites under-controlled behaviour styles as a precursor for the development of a set of problem behaviours which involve deviance from social norms one of which happens to be the excessive use of alcohol and drugs (Jung, 2001). Jessor and Jessor (1977) put forth that adolescents who are involved in deviant sexual activity and or criminal behaviour are likely to participate in deviant alcohol and drug use.

3.4. BEHAVIOURISM AND SOCIAL LEARNING THEORY

3.4.1. Reinforcement

Behaviourists look to the pleasurable experiences (positive reinforcement) and experiences of self-medication and the reduction of negative feelings (negative reinforcement) reported by drug users, as a way in which to explain why people continue to use drugs (Barlow & Durand, 2005). Through these experiences, people learn that pleasure is associated with repeating the behaviour and unpleasant consequences can be avoided by refraining from drinking or using drugs. Thus addictive behaviours are seen as a product of social acquisition which are enforced by repetition (Barber, 1995). These theorists therefore cite patterns of learning as an explanation for drug abuse and much research has been conducted into the chemical rewards of substances as reinforcers to continue with the use of the substance (Erickson, 2001).

3.4.2. Social learning theory

Social learning theory is a cognitive view that claims that behaviour is learned. Within this approach, it is assumed that people learn through direct observation and communication with parents, media, peers and various other mediums. Hence this theory emphasises expectancies that people form about the effects of alcohol and drugs. It asserts that people first learn through social norms what is acceptable drug and or alcohol use. People watch which situations permit which amounts of drug use and what kinds of effects are associated with different patterns of use. Lastly people learn what effects to expect the drugs or alcohol to have on their behaviour and experiences (Bandura, 1977). Therefore, parents may influence their children's drinking and or drug use through direct modelling of drinking and or drugging behaviour and through the transmission of parental values about drinking and drugging (Bank et al., 1985; Kandel & Andrews, 1987). In support of this theory, numerous studies have confirmed that similarities exist in the drinking

patterns of parents and their adult children. In other words parents who drink heavily have children who also develop heavier patterns of drinking (Jung, 2001).

3.4.3. Intrapersonal beliefs and skills

In addition to the values and behaviours related to drug and alcohol use, the development of intrapersonal beliefs and skills may also contribute to drug or alcohol use. For example self-esteem, social interaction skills and coping mechanisms all play a crucial role in determining the level of, and extent to which, drug abuse occurs (Jung, 2001). According to social learning theory, while people begin to form certain expectancies about drug use, they also begin to formulate beliefs about their self-efficacy or the extent to which they perceive themselves to be competent to cope with or control outcomes on particular tasks. If, for example, one does not believe he/she can cope with life's demands, a belief may develop that problems can be smoked or drank away. Hence, Barber (1995) notes that addiction develops in order to control internal and external demands. As a result, social learning theory is highly concerned with an individual's coping skills. It is proposed that individuals who have adequate coping skills and high self-esteem are able to display healthy patterns of alcohol use as they are able to drink at socially acceptable levels, whereas individuals with poor coping skills for dealing with life problems are more likely to develop into problem drinkers and alcoholics. Eventually they begin to seek out peers with similar drinking patterns and as the peer group mutually reinforces the destructive lifestyle, "a reciprocal influence exists among members of the group" (Jung, 2001, p. 168).

3.4.4. Peer cluster theory

The above notion is closely linked to that of peer cluster theory (Oetting & Beauvais, 1987) as it outlines the central role peers play in influencing an individual to participate in drug use. This theory is therefore highly applicable to adolescents as it proposes that drug using peers socialise other adolescents into using drugs. The process of peer selection then becomes important as people who use drugs will inevitably seek out others who participate in the same behaviour (Farrell, 1994).

3.4.5. Tension reduction hypothesis and the alleviation of stress

There is a growing body of literature describing the link between stress and addiction. One such link that has been repeatedly discovered is that exposure to stressful events early in life or chronic exposure to internal and external stressors may increase a person's vulnerability to addiction. Hence, one common assumption as to why people drink or use drugs is to reduce levels of stress. According to this belief – also referred to as the tension reduction hypothesis – people engage in alcohol and drug use in order to relieve their stress and anxiety (Uhart & Wand, 2008). If this belief is maintained by an individual and the effects of alcohol and or drugs do reduce these feelings, it is likely that the tendency to resort to drugs or alcohol in the future in order to cope with tension will be reinforced (Jung, 2001). Therefore, if people believe drug or alcohol use reduces tension, even if it does not directly do so, stress will act as a trigger for drug use and the association between stress and drug and alcohol use is reinforced every time the behaviour is repeated. Stress response dampening theory speaks to this as it outlines how drug use commonly dampens or reduces stress by acting on various physiological functions of the body (Sher, 1987). For example cardiovascular reactions are often affected by drug and or alcohol use. As a result drug consumption as a response to tension, is reinforced as it often moderates the physical reaction to stress (Jung, 2001).

Uhart and Wand (2008) further note that as individuals move from a state of occasional drug use to drug dependence, various forms of stress will be involved. As people move more towards the end phases of addiction, stressors are likely to increase as their behaviour often creates a plethora of negative consequences. The increase in stress can have detrimental effects as it often leads to dysfunction of the brain's reward system which in turn causes an escalation in drug consumption (Uhart & Wand, 2008). Both scenarios create an end situation in which the reinstatement of stress or the experience of stress acts as a precipitator for cravings and relapse (Breese et al., 2005).

3.4.6. Coping with emotional pain and trauma

There have been several clinical studies which have shown that adverse childhood experiences such as emotional, physical, verbal and sexual abuse increase the risk for addiction in addition to the initiation of substance use at an early age (Dembo et al., 1988; Harrison, Fulkerson & Beebe, 1997). Carnes (1991), reports that a common hypothesis exists that postulates that sexual addiction serves as a 'survival mechanism' so that people can cope with emotional crises and pain. It has further

been proposed that this addiction acts as a re-enactment of an internalised experience with abuse. Research conducted by Carnes (1991) confirmed that approximately 81% of his research participants with sexual addiction had a history of sexual abuse while 72% had a history with physical abuse. It has even been suggested that sexual addiction emerges as a manner in which to mend problems with attachment (Carnes, 1991).

3.4.7. Excuse theory

What often begins to occur when people drink excessively is that they begin to attribute some of their behaviour to the effects of drinking. This is often referred to as excuse theory as people try to avoid being criticised or blamed for their conduct, and being under the influence of alcohol is an excuse that has become relatively socially acceptable. As a result the person continues with the behaviour and continues to use the effects of alcohol as an excuse (Jung, 2001; MacAndrew & Edgerton, 1969). This theory is closely linked to the theory of self-awareness reduction which emphasises that alcohol and drug use can create cognitive impairment which reduces an individual's awareness. This lowered sense of awareness provides drinkers or drug users with an excuse for violating social norms. Furthermore by reducing the capacity for self awareness, alcohol and drugs reduce an individual's sense of compliance with their own standards of appropriate and acceptable behaviour (Jung, 2001).

3.4.8 Criticism of environmental theories

While the above environmental factors may add to the vulnerability of individuals to engage in drug and or alcohol use and they may therefore play a part in the development of drug and or alcohol dependency, they cannot account for why some people may only use drugs or alcohol and why others develop a dependency on substances (Jung, 2001).

3.5. SOCIO-CULTURAL THEORY

Yet another approach to explaining dependency is known as socio-cultural theory. This framework studies cultural factors, social pressures and environmental factors that contribute to the development of substance abuse and acknowledges that each culture has its specific preferences

for specific drugs as well as a code of conduct that deems certain behaviours and substances unacceptable (Barlow & Durand, 2005).

3.5.1. Attitude as a factor

Attitudes towards alcohol consumption and abuse are different from culture to culture which impacts on the amount and context of alcohol consumption. This can be highlighted by looking at countries such as France or Italy where wine is generally consumed at most meals and children are allowed to drink watered down wine, whereas countries in which alcohol is relatively new have not yet developed values and norms around its use (Erickson, 2001). In addition communities affected by conditions such as poverty, inadequate housing, single parenting, crowded living conditions, homicide, child abuse and neglect, criminal activity and learned helplessness are often rife with substance abuse and the opportunity for the sale of drugs (Erikson, 2001; Johnson & Muffler, 1997).

3.5.2. Global trends and the role of culture

A further example of how cultures play a role in explaining the development of problematic addictive behaviour and substance use, is that of global trends and the role of culture. For example, the use and abuse of different drugs have followed different trends and have either gained or lost popularity over changes in time. For example marijuana and LSD were drugs that typified the hippie movement of the 60's. Heroin gained popularity in the late 60's and 70's and cocaine exploded onto the scene in the 80's. With the arrival of the rave scene, ecstasy and designer drugs were common drugs of abuse and currently crystal meth is gaining a notorious reputation in the drug world (Erickson, 2001; SACENDU, 2008). Aasvend (2002), comments on how gambling has also transformed from a once illegal and unlawful activity to a means of revenue generation and with the passage of time, global trends to legalise gambling have risen as is seen in 'lottery fever' which has impacted on nations across the globe. Hall (2006, p. 1530), notes that although alcohol is the most commonly misused substance throughout history, alcohol policy has been moving in one of the most liberal directions for example "alcohol sales have been deregulated in most countries with increased trading hours, reduced prices and heavy promotion to young adults". The result of this is that there has been a predictable rise in the prevalence of problematic drinking and gambling (Hall, 2006).

3.6. THE DISEASE MODEL AND BIOPSYCHOSOCIAL THEORY

3.6.1. The disease concept

Despite all of the above aetiological approaches to explaining addiction, the **disease model** of addiction seems to be the predominant approach in contemporary thought and treatment (Barlow & Durand, 2005; Henderson, 2000; S, Rahme, personal communication, March 2, 2009). The disease theory compares substance abuse to a complex physical and psychological illness complete with its own set of signs, symptoms, course and treatment (Perkinson, 2008). Within this approach, the disease is viewed as a chronic, relapsing and potentially deadly disorder that can be treated but not cured. If it is left untreated it is progressive and eventually results in death (Henderson, 2000) . This approach to the explanation of addiction is largely a biological perspective (Barlow & Durand, 2005; Stevens & Smith, 2001), however it is often incorporated into a biopsychosocial approach to chemical dependency which views substance abuse as a complex, interactional condition that takes biological, psychological and social aspects of addiction into account (S. Rahme, personal communication, March 2, 2009).

3.6.2. Criticisms of the disease model

While the disease model strongly reinforces the role of craving and compulsion in understanding addiction, it has been criticised for "implying that [due to the compulsive nature of addiction] addicts are impotent onlookers and the only way of stopping them doing it, is physical restraint (Skog, as cited in West & Hardy, 2005, p.77). Furthermore, many feel that the disease model supplies addicted people with an alibi which justifies their continued use as they are portrayed as "passive 'suffererers' who are at the mercy of an illness that is out of their control" and so often addicts manipulate the disease model when explaining a relapse. For example they may say "I can't help it [using], I have an illness, I'm sick" (C. Carastavrakis, Personal Communication, 16 July, 2011) and as such the role of choice is undermined (West & Hardy, 2005).

3.6.3. The biopsychosocial model

The biopsychosocial approach to addiction views the individual, the environment and behaviour as having reciprocal effects on one another. It therefore proposes that there are many influences that

combine to create the circumstances under which a person will abuse or never abuse substances. Thus, it is an integrated approach to understanding dependency as it views dependency in a holistic manner. As a result, this theory can account for differences in patterns of drug and alcohol use, misuse, abuse and dependency as these patterns are largely a reflection of the differences in individuals' biopsychosocial constitutions (Erickson, 2001).

3.7. MEDICAL THEORY – A DISEASE OF THE BRAIN

3.7.1. The role of neurochemistry

While the American Medical Association recognised addiction as a disease in 1956, it is only now that the disease model of addiction has shifted focus to targeting the underlying biochemistry of the illness. This approach has resulted in an emerging paradigm of medical theories that view addiction as a chronic, relapsing brain disorder that can be regulated medicinally (Hughes, 1997; Interlandi, 2008; Leshner, 2001; Qureshi, Al-Ghamdy, & Al-Habeeb, 2004; "The Science of Addiction", 2006). Because addiction is a disease that directly affects the brain, ceasing drug use it is not a question of willpower or ethical weakness. Pietras (2002) notes that there are several biological factors that are involved with the 'addicted brain' and there are noticeable differences between the brain of an addicted person and the brain of a non-addicted person. These changes are most noticeable with regards to metabolic activity, receptor availability, gene expression and responsiveness to environmental cues (Pietras, 2002).

3.7.2. The continuum of drug use – how do chemicals changes in the brain relate to the process of dependency?

Drug use can be viewed as a continuum, progressing from casual use to addiction and as the pattern of drug use approaches the final stage, the drug assumes "increasing control of the individual's behaviour" (Bozarth, 1990, p. 113). Bozarth (1990) further postulates that drug use can be divided into two phases:

Phase 1: The acquisition phase: Begins with casual use i.e. use is the result of experimentation or circumstance

Phase 2: The maintenance phase: The addiction has fully developed because patterns of drug use are maintained; addiction is viewed as an extreme case of drug use that is not qualitatively different from compulsive drug use.

The division of drug addiction into these two phases suggests two main things: firstly, different factors contribute to the use of the drug depending on which phase the person is in and secondly, different degrees of drug taking behaviour are associated with each phase (as outlined above) (Bozarth, 1990).

The representation of drug use as a continuum highlights that the factors that may contribute to initial drug use in the acquisition phase may be personal, circumstantial or environmental however the progression from the acquisition phase to the maintenance phase is marked by a change in the importance of factors that control the person's behaviour. In other words, the reason the person began to use the drug is no longer the reason the person continues to use the drug. Through the passage from casual use to intensive drug use the person may continue to use drugs because of intrapersonal and or environmental reasons but the pharmacological properties of the drug have been activated. From intensive to compulsive drug use there is a shift from the intrapersonal and environmental causes behind the initial drug use as the effects of taking the drug have repeatedly been felt. Consequently the ingestion of the drug itself becomes the reason for the continuation of the behaviour. Thus the person's motivation to use the drug is strengthened – a concept Bozarth (1990) termed motivational strength. Thus as a person moves from casual use to intensive use and onto the compulsive stage of drug use, the chemical properties of the drug and its effect on the brain cause the motivational strength of the drug use to increase.

Bozarth (1994) explains this phenomenon by offering a description of the brain's reward system. He explains that a biological mechanism mediates a person's behaviour which is motivated by events that a person experiences as pleasurable. These events are called rewards and they can be identified as the primary factor that governs behaviour. The change in motivational strength is thus largely due to the pharmacological factors that govern drug taking behaviour as the chemical properties of the drug create changes in the brain's neurochemistry. Drugs activate the brain's reward mechanism with the release of domapine - a neurotransmitter associated with the experience of pleasure and reward – and as such, the behaviour is repeated by a person in order to re-experience those feelings.

Due to the repetition of drug taking behaviour, Bozarth (1994) proposes that at some point the only factor that motivates the addicted person's behaviour is the drug itself. At this point, the drug is thought to exert an extreme force of control over the person's life and as a result there is deterioration in the ability of other rewards (such as sex or career or achievement) to govern the person's behaviour. In other words, only the feelings of pleasure and reward experienced with drug use are able to govern the person's behaviour, a term known as motivational toxicity – a distinguishing feature of addiction. When motivational toxicity occurs, what is often observed is a situation in which the drug addict becomes totally consumed with getting the drug and using the drug. A reason that is offered as a means in which to account for this is reduced dopamine function which often sets in with chronic drug use. As a result of continuous drug use normal rewards are not able to excite and produce similar feelings of reward and pleasure as are associated with drug use and subsequently the only thing that produces feelings of reward and pleasure is drugs.

Bozarth (1990, p. 113) provides a diagram to represent the progression of drug dependency:

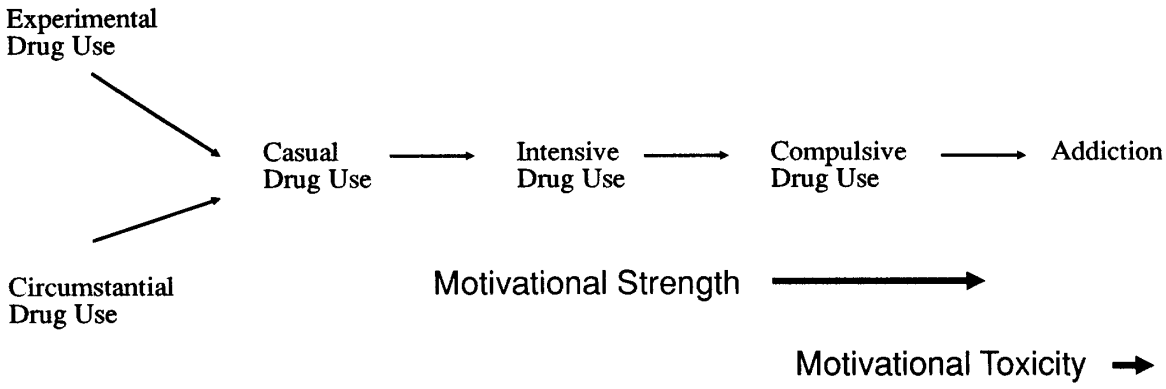

Figure 1: A continuum of drug use illustrating the progression from casual drug use to addiction.

Important to note is that "the various terms used to punctuate this continuum are not clearly demarcated; rather, they serve as convenient labels describing varying degrees of drug-taking behaviour" (Bozarth, 1990, p. 113).

These findings have been confirmed by documentation that the chemicals found in drugs cause changes to the neurochemistry and molecular structure in the brain (Curtiss, 2004), most specifically at the brains mesocorticolimbic dopaminergic system (more commonly referred to as the brain's reward system) (Pietras, 2002; Uhart & Wand, 2008). It appears as if over activation of the brain's reward system is what causes drug use to become compulsive despite the harmful

consequences it has caused in an individual's life (Curtiss, 2004; Dockery, 2005; Thobaben, 2009) as "sensitisation of the reward system would render the subject more responsive to drugs of abuse and, consequently, more vulnerable to the development of addiction" (Uhart & Wand, 2008, p. 46). In addition, the behavioural based addictions are also thought to create changes in the brain that are similar to those caused by repeated drug use (Ramirez, 2004).

In an article written by Holden (2001), it was highlighted that the move to include compulsive behaviours as addictive has been supported with the advancement of technology and brain imaging techniques as there is an emerging quest for evidence that non drug behaviours also lead to long term changes in the reward system of the brain (Ramirez, 2004). This was captured in the thought that "a reward's a reward, regardless of whether it comes from a chemical or an experience. And where there's a reward, there's the risk of the vulnerable brain getting trapped in a compulsion" (Holden, 2001, p. 980). The idea that non drug stimuli (such as sex, gambling, eating and so forth) can alter the brain's reward circuitry is one that is hotly debated. While it appears that there is not much opposition to the idea that non drug stimuli can alter the brain's chemistry as they are certainly experienced as rewards, agreement on whether these are powerful enough to change the circuitry in the brain is not unanimous (Holden, 2000). Consequently, studies are focusing on the role of genetics, enzymes, neurotransmitters and brain pathways in addiction and many pharmaceutical companies are in the process of developing 'vaccinations' against chemical substances (Interlandi, 2008).

3.7.3. Why can't they just stop? The link between the brain, triggers and relapse

Bradley (1990) states that the term 'addiction' is frequently associated with connotations of repetitive indulgence in (a once) voluntary behaviour. According to Sadock and Sadock (2007), the reason that drug use transforms from being a voluntary action to a compulsion is due to changes in the structure and neurochemistry of the brain in a drug user. In fact, advances in modern technology have now made breakthroughs in brain imaging where the differences between an addicted brain and a non-addicted brain are visible (Hoffman, Froemke, & Cormier, 2006).

Not only does repeated euphoric response to drug use alter the brain's wiring - which makes it difficult for people to quit (Hoffman, Froemke, & Cormier, 2006) - but the development of tolerance and sensitization to a drug also plays a role in making efforts to stop difficult. Tolerance

has been touched on already as a product of physiological dependence as a person requires greater amounts of the drug in order to feel the same effects they initially experienced, however another reason that efforts to cease drug use become difficult, is due to a phenomenon known as sensitisation. Sensitisation refers to a situation in which a person becomes more responsive to a drug. The exact reasons for why some people develop tolerance while others develop sensitisation are still unclear; however both contribute to making it difficult for users to stop (Ramirez, 2004). While changes in the brain and the role of tolerance and sensitisation shed light into the biological reasons that make it difficult for people to stop using, factors that contribute to the difficulty in quitting are not purely biological as environmental and internal triggers also contribute to relapse. Subsequently these will be elaborated on in the following section.

Because continued exposure to external stimuli causes changes to the brain on both a chemical and structural level, it is believed that when people are exposed to environmental cues (i.e. any external stimuli that were associated with the person's addiction) the brain's reward circuitry is reactivated and becomes hyperactive. This causes the person to experience a craving for their drug which often results in relapse (Pietras, 2002). Environmental cues can range from smells, memories, places and people the person used with (Ramirez, 2004). Hence external cues can act as potent catalysts re-activating the behaviour chain (Bradley, 1990).

Internal cues such as negative mood states can also act as powerful cues particularly dysphoria, and most addicted people are likely to act out on their addiction when they feel "miserable or bored" (Marks, 1990, p. 1392).

Bradley (1990) takes a different – less cited but just as relevant – stance on the reason why people find it difficult to stop. He explains that that the word 'compulsion' implies an involuntary force – like a push – that arises from a discomfort that has to be alleviated whereas the word 'addiction' implies more of an attraction or a pull towards something. A pull towards something also indicates a search for pleasure or a 'good feeling'. Dependency syndromes involve both this push and pull movement and addicted people can and do, simultaneously love and hate what they are doing. It is due to that fact that there is an element of 'pull' in a dependency that it is more difficult to give up their addictions as opposed to a neutral or unpleasant activity (Bradley, 1990).

3.7.4. Criticisms of brain disease theory

The movement in understanding addiction as a brain disease has meant that advances in understanding the biology of addiction are moving at a rapid rate and addiction as an illness can now be treated medicinally (Interlandi, 2008). This approach strongly emphasizes that while addiction can be compared to a disease, it may be one that medicine will eventually be able to cure. Hence, there is a renewed call for addicts, treatment centres and the recovery movement to "change their thinking" as the world is entering into a new era of technology that will impact on the treatment of addiction (Interlandi, 2008).

Yet while this emerging paradigm is gaining momentum, criticisms of this approach have included the idea that it is far too limiting in its definition of addiction solely as a disease of the brain. Hall (2006) stresses that while there are new discoveries being made concerning neurobiology and genetics, the public needs to be made aware of what conclusions can be drawn from this evidence as developments in neuroscience are likely to bring about both benefit and harm. For example, although there are strong genetic markers that point to the transmission of addiction, it is not a Mendelian disorder (i.e. the pattern of inheritance is not clear) and if you have the gene it doesn't mean you are certain to get and if you don't have it you are not certain not to get it. Furthermore, the treatment of addiction and alcoholism by the medical community as a malfunctioning of the brain that can be treated solely with medication fundamentally ignores the psychological and social factors that in some cases trigger and sustain it (Hall, 2006; Rosenthal, 2008). This is a grave error (according to Rosenthal) as behavioural factors and a wide range of social and practical concerns need to be addressed before most addicts are able to stop their drug use and enter into a programme of recovery and addiction is most likely to be a polygenic disorder that is the result of complex interactions between an individual's environment and genetic make-up (Hall, 2006; Kranzler & Li, 2008).

In perhaps his most important contribution, Hall (2006) implores the medical community to remain mindful that they have an obligation to anticipate the ramifications of their work and to ensure that people are informed about the extent to which their work can be applied. By implying that addiction can be cured with the use of a pill (medication), an "easy-way-out" is offered to many addicted people who in the grips of their addiction are resistant to the thought that recovery from addiction involves abstinence and a total life style revolution.

4. CONCLUSION

While the range of theories described above address the reasons why people use drugs and develop addictions by focusing on the physiological factors, cognitive factors, affective experiences and social determinants, they are not mutually exclusive. They are all important elements in explaining causality as they often interact with one another. Because all variables are operative in a person's life, it makes it close to impossible to disentangle the influences and effects of each factor (Jung, 2001). In addition, because individuals differ in their personal motivations to engage in addictive behaviours, no one single theory will be able to explain all cases (Aasved, 2002). It is therefore useful to draw upon all the theories in an eclectic approach towards understanding addiction (Hitzeroth & Kramer, 2010).

Furthermore, professionals and specialists in addictive disorders have proposed that as long as opportunities to engage in addictive behaviours continue to increase, so too will the problems associated with them (Aasved, 2002). Subsequently, treatment for addictions seems to be an inevitable element of today's times. As a result approaches to treating addiction will be elaborated upon in the following chapter.

CHAPTER 4

REVIEW OF THE LITERATURE

TREATMENT OF ADDICTION

1. INTRODUCTION

Treating people who are chemically dependent has proved to be challenging. This is largely due to the diversity of aetiological explanations that exist for the occurrence of addiction which have implications for the type of approach taken when treating it (Coombs, 2001). In addition, the basic nature of addiction complicates treatment as it breeds on denial, dishonesty and manipulation; is maintained by repetition and compulsion and is susceptible to relapse. Moreover, it is often the case that clients are coerced into treatment by a loved one and as a result their personal motivation for being in treatment is poor (Coombs, 2001). In addition, statistics indicate that the outcomes for people who are addicted are not always positive due to **multiple dependency** (the presence of more than one addiction); dual diagnosis (the presence of co-occurring conditions); **cross addiction** (the tendency to replace or substitute one addiction for another) and relapse (the tendency to return to the primary addiction after a period of abstinence) (Barlow & Durand, 2005). Consequently these will be examined in the section that follows.

2. COMPLICATING FACTORS FOR TREATMENT

2.1. Co-occurring addictions (multiple dependency)

It is an accepted truth that multiple drug addiction is common as is evidenced by the fact that most addicted people use more than substance at the same time (i.e. concurrent, poly-substance use) (Marks, 1990). However, what is uncertain is how common the prevalence of multiple behavioural addictions is (Marks, 1990). Some individuals may experience a combination of substance based additions and behavioural based addictions (co-addiction), while others experience an SUD together with mental illness (dual diagnosis), and it seems to be the case that having one addiction does increase the likelihood for developing another (Holden, 2000).

Yet while evidence exists which strongly points to the fact that behavioural addictions co-occur with substance addictions (as is seen in Table 1 as cited in Freimuth et al., 2008), little is known about the nature of the relationship. For example, it is thought that certain substance addictions (e.g. cocaine and methamphetamine) facilitate a sexual addiction (Carnes, 1991) and it is also thought that there is a strong relationship between SUDs and gambling (Westphal & Johnson, 2007). However, the lack of empirical research expanding on the nature of co-occurring addictions means that clinicians at this stage need to remain open to the idea that addictions occur in a variety of manners and combinations because it is sure to have important implications for treatment (Freimuth et al., 2008).

Table 1: Behavioural addictions co-occurring with substance use disorders

Problematic Gambling	22%
Pathological Gambling	11%
Eating Disorders	35%
Sexual Addiction	33%

(Cunningham-Williams et al.,; Gordon, Fargason, & Kramer; National Center on Addiction and Substance Use (CASA), as cited in Freimuth et al., 2008, p. 139).

Roth (2008) refers to the need to assign disorders and problems into rigidly defined categories as lumping and splitting. He goes on to caution against this as it appears to 'homogenize' groups, thereby undermining one's ability to discover the differences in people. With regards to treatment, splitting and lumping is particularly dangerous as it treats people as 'the same' and the opportunity to gain insight into theoretical blind spots is lost. This is particularly relevant to the discussion of addiction. On the one hand, while the range of addictions may be classified into the exclusive categories of substance based addictions and the behaviour based addictions, it is exceptionally rare for substance use disorders to occur in isolation (Freimuth et al., 2008). Due to the fact that substance based addictions and behaviour based addictions have many characteristics in common - regardless of the way in which the addiction manifests - all the addictions are lumped together and treated in an identical and homogenised way. Therefore on the one hand, the reality that people presenting with one addiction will most likely have another addiction/condition means that the presence of multiple addictions can be viewed and treated as symptoms of the disease of addiction. This holistic approach to addiction takes into account that the disease of addiction encompasses a

range of dependencies and reinforces that any behaviour or substance which has the capacity to alter the mind or mood has the potential to be addictive. Yet, it overlooks that the different addictions have, in some cases, contrasting theoretical explanations and aetiology's and treatment providers need to be aware not only of their similarities but also of their differences.

On the other hand, while it may be true that loss of control and continued use despite negative consequences (together with many more characteristics of addiction) may be universal elements found in dependencies, the theoretical underpinnings and the knowledge required for the treatment of specific addictions may differ. The desire to split the addictions into categories may imply that each addiction requires training and knowledge specific to the type of addiction yet it often means that the presence of multiple dependencies is overlooked and not dealt with effectively.

In both cases the ability of people to maintain sobriety and/ abstinence may be undermined and as a result they may relapse frequently. Subsequently, current thinking is that a profound knowledge of all types of addictions is needed, so that they can be treated as various manners in which the disease of addiction finds expression.

2.2. Co-occurring conditions (dual diagnosis)

The term co-morbidity is used to refer to "the occurrence of a mental illness and a substance abuse problem" (Hitzeroth & Kramer, 2010, p. 163) and an astonishing 60% of individuals with a mental or addictive disorder will simultaneously experience at least one other disorder (Hilarski & Wodarski, 2001). The fact that SUDs are more often than not accompanied by a psychiatric condition (of which anxiety and depression are the most common) is going to have implications for treatment (Watkins et al., 2004). For example, research suggests that co-occurring major depression significantly undermines the ability to recover from substance dependence (Hasin et al,. 2002) and dealing with dual diagnosis presents a set of treatment specific issues that make successful treatment outcomes challenging. Such areas of concern include: patient adherence to medication and the proverbial 'chicken or the egg' syndrome which presents itself when contemplating the timing of treatment for each disorder as professional's need to decide if the disorders should be treated at the same time (parallel treatment) or if one should be treated after the other (serial

treatment). Having several areas of concern - together with inadequately trained professionals - often complicates treatment and high rates of relapse are common (Hilarski & Wodarski, 2001).

In addition, it is well established that the use of one substance is highly associated with the use of another. As a result patients may present with more than one SUD and subsequently they may meet the criteria for polysubstance dependence – a diagnosis which is strongly correlated with co-morbid psychiatric conditions such as bipolar disorders, dependent, histrionic and borderline personality disorder and phobia's (Skinstad & Swain, 2001).

In actuality it is more like the rule rather than the exception that chemical dependency occurs with either another addiction/s or a psychiatric condition. This has been highlighted in research concerning the behavioural addictions for example Scheider & Irons (1998) found that the majority of people with sexual addiction do not present their sexual addiction as the primary reason for seeking help but rather seek help for a variety of mental health care issues (e.g. depression, anxiety, marital problems/ work related issues) or for a SUD. This was also true for people with work addiction (Robinson, 2007).

The relationship between SUDs and other mental disorders is a complex one and can be the product of a variety of possibilities. It may be the case that chronic substance use, abuse, addiction or withdrawal can actually result in the development of mental illness or may trigger or exacerbate an already existing mental disorder. It could also be the case that people with an existing mental illness develop SUDs as a consequence of self-medicating as a means of coping with the symptoms of their mental illness. Regardless of how it occurs, dual diagnosis is frequent and subsequently professionals need to be aware of the complexities it carries (Hitzeroth & Kramer, 2010).

2.3. Cross addiction

It is crucial that treatment providers be aware that the successful treatment of one addiction can result in the emergence of another, as the cessation of a substance dependency can result in the emergence of a behavioural one or vice versa. The idea that an addiction to one thing can be replaced with an addiction to another was once known as symptom substitution however this dynamic is now referred to as addiction replacement, addiction-hopping or cross addiction. One reason that accounts for this is that unless a person is provided with adequate coping skills

throughout the therapeutic intervention, a new addiction may emerge "to replace the loss of the treated addiction's self-modulating effects" (Freimuth et al., 2008, p. 151). Furthermore, the co-morbidity of addictions together with the propensity for addictions to shift and change from one to another strongly speaks to the possibility of an addictive disorder or disease that manifests in a variety of forms (Westphal & Johnson, 2007).

2.4. Denial

In a paper titled *Denial of Hurricane Risks: Reflections of an Addictions Researcher* (Ager, 2008), professor Richard Ager draws on his experiences working in the field of addiction and on his knowledge of the function of denial in an attempt to explain the phenomenon of why people failed to evacuate New Orleans despite warnings of a hurricane (Katrina) that would ultimately ravage the city. He explains that when people bear witness to trauma, they frequently experience profound feelings of loss and as result have to engage in "psychic numbing" in order to cope with their feelings that events are out of their control. Some ways in which people integrate the traumatic experience are through "emotional distancing" and "intellectualising" of the event so that they are better able to manage their feelings of powerlessness, "commonly called denial, we minimise, ignore or distort that which evokes overwhelming anxiety and discomfort" (Ager, 2008, p. 48).

According to Malliarakis and Lucey (2007), denial – as a defense mechanism – is considered as a defining feature of the disease of addiction. Defense mechanisms are currently defined as the "automatic psychological processes that protect the individual against anxiety and from the awareness of internal or external dangers or stressors" (*Diagnostic and Statistics Manual of Mental Disorders*, as cited in Yu, Chamorro-Premuzic, & Honjo, 2008).

For many, one of the hardest things to conceptualise is how addicts continue to adhere to their habitual patterns, despite the ravaging and destructive effects it has on their lives and the severe physical, social, financial, emotional, intellectual and spiritual consequences associated with its use. One of the oldest and most frequently referenced sources of explanation for why individuals fail to recognise the effects of their drug use is that of denial (Howard et al., 2002). Taylor (1999, p. 23) proposes that denial serves a specific function within the addict which is important for any addiction counsellor to understand namely: it is a manner in which to protect one's awareness "from an unacceptable threat and a way of buying time to cope with that threat". If denial is thus

viewed as a survival strategy, one can begin to understand why "the essence of denial is resistance to change" and why so many individuals are ambivalent about treatment (Taylor, 1999).

3. TREATMENT APPROACHES

3.1. DEFINING TREATMENT APPROACHES AND FORMS OF TREATMENT

Durrant and Thakker (2003, p. 225) define substance abuse treatment as "the use of biological and/or psychosocial interventions that eliminate (or substantially reduce) the symptoms associated with substance abuse or dependence". Two crucial points are highlighted in this definition namely:

1. The approach to the treatment of addiction is pluralistic as there are a range of ways in which to treat addiction which largely depend on how addiction is understood. For example, if addiction is understood as a product of social learning theory, it may be treated with the use of cognitive behavioural methods such as motivational interviewing and cognitive restructuring. If it is understood as a biopsychosocial disease, it may be treated with the use of a **12 step programme** and if it is understood solely as a disease of the brain, it may be treated with the use of medication.
2. Treatment does not have to be purely abstinence based and the partial reduction of symptoms associated with substance abuse - commonly referred to as harm reduction – is also considered as a treatment approach (for example methadone maintenance and needle exchange programmes).

Durrant and Thakker (2003) in their analysis of substance abuse treatment in the 21st century have proposed that treatment is currently a combination of psychological, social, biological and cultural factors. This indicates that treatment approaches are still unclear as to which one set of factors – if any – are responsible for the creation of addiction. Very often the type of treatment employed is dependent on how the concept of addiction is understood; the type of substance used and individual characteristics. Current treatment approaches and examples of that particular treatment modality are outlined by variety of authors (Barlow & Durand, 2005; Boyd, et al., 2005; Durrant & Thakker, 2003; Muffler, Langrod, Richardson, & Ruiz, 1997Smith, Brewington, Culliton, Hsiang-lai Wen, & Lowinson, 1997) and are summarised in table 2:

Table 2: Types of Treatment Approaches to Substance Abuse

Treatment approach	**Example**
Biological/medical approaches	Medications to reduce withdrawal symptoms (e.g.Vyseptone) or the incidence of relapse (e.g. antabuse)
Psychological approaches	Family therapy; cognitive behavioural therapy, 12 step programmes; group therapy, psychotherapy; motivational interviewing; reality testing; relapse prevention
Natural recovery	No formal treatment. The assumption is that the person spontaneously stops using compulsively. This challenges the assumption that addiction is a disease that will become progressively worse if left untreated
Religion	Religiously orientated programmes e.g. church based programmes; new religious movements
Alternative approaches	Acupuncture; meditation
Harm reduction	Methadone programmes, needle exchange programmes, harm reduction based education

3.2. DOMINANT FORMS OF TREATMENT

The main treatment approaches to addiction include biological and psychosocial treatments and as such they will be expanded upon in the segments that follow.

3.2.1. Biological/medical approaches

Biological approaches to the treatment of addiction by and large camouflage the effect of the ingested substance. This approach would therefore include treatments such as: agonist substitution (a ‘safe drug’ is given to a person that has a similar chemical makeup to the addictive drug); antagonist treatments (drugs that block or counteract the effects of psychoactive drugs); aversive

treatments (drugs that make the consumption of the abused substance extremely unpleasant) and lastly medications which are prescribed to aid the addicted person in dealing with the symptoms of withdrawal (Barlow & Durand, 2005). Examples are illustrated below (Potgieter, Deckers, & Geerlings, 1999).

Table 3: Medical treatment approaches to substance abuse disorders

TREATMENT APPROACH	**EXAMPLES OF MEDICATIONS**
Agonist	Methadone; Buprenorphine
Atagonist	Nalmefen; Naltrexone; Campral
Aversive	Disulfiram; Atabuse
Withdrawal	Diazepam; Welbutrin; Vyseptone

3.2.2. Psychosocial approaches

While medicinal treatments for addiction may assist some drug users to stop using, it is generally agreed that it is not enough on its own and frequently social support and therapeutic intervention (psychosocial approaches) are needed to ensure success. This is reinforced by Dr Katheleen Brady as she states “the right medication with the right therapy can give an individual a leg up in recovery” (Hoffman, Froemke, & Cormier, 2006). As a result various psychosocial models and programmes have been developed specifically for the treatment of addiction which will be detailed below.

A. <u>12 Step Fellowships as self help groups</u>

One approach to treating dependency is to train people to control their use. However, this notion is exceptionally controversial in the addiction industry as only a rare percentage of people who are addicted may be able to achieve this (Barlow & Durand, 2005; Leshner, 2001). The other – and more popular – approach to the treatment of drug addiction is that of abstinence, a basic principle of the 12 step model for the treatment of substance abuse problems and compulsive behaviours (Barlow & Durand, 2005).

Carnes (1991) together with Parker and Guest (2002) propose that 12 step fellowships are a necessary addition to formal treatment. Today, 12 step methods have been adopted to address a wide range of substance abuse and dependency problems. Over two hundred self-help organisations – known as fellowships – with a world-wide membership of millions, now employ 12 step principles for recovery from a wide variety of addictions and dependencies. These include fellowships such as Narcotics Anonymous (NA), Overeaters Anonymous (OA), Alcoholics Anonymous (AA), Gamblers Anonymous (GA) and Co-Dependents Anonymous (CODA) (Barlow & Durand, 2005). Those who continually attend self help groups have fewer negative substance and psychiatric related consequences (Hilarski & Wodarski, 2001).

The 12 step approach to treatment: understanding addiction as a disease

Pre-12 Step: Moral theory

Public opinion in 1930's America saw alcoholism, drug use and gambling as a moral failing. Within this model, people suffering from "deviant" behaviour were seen as responsible for their "vices" and because they chose to engage in it, they were seen as "wilful sinners" (Aasved, 2002, p. 6). Because the person was seen as responsible for his/her decision and actions he/she was held accountable for all consequences it entailed. Moreover it was believed that if the person wanted to stop they could using sheer determination and willpower. If they chose to continue engaging with their "vice" they should under no circumstances expect any form of pity or sympathy from others (Aasved, 2002, p. 6).

Hence during this time treatment of such "self-indulgent" behaviour largely comprised of spiritual, moral and theological counsel. If such methods were insufficient, people were often subjected to more "secular" approaches to punishment for example public ridicule, restraint or corporal punishment (Aasved, 2002, p. 6). This can be further highlighted by the fact that the medical profession viewed alcoholism as a condition that was incurable and lethal. People suffering from alcoholism without financial resources found help through state hospitals, the Salvation Army and other charitable and religious groups (Griffith, 2002). Those who could afford psychiatrists or hospitals were either subjected to concoctions of severe drug treatments that had adverse and often unpleasant side effects or they were committed to asylums for long term treatment (Cheever, 1999).

While moral approaches to understanding addiction were born in the 1930's, they are very much alive almost eighty years later as many people still believe that excessive behaviours are the result of moral degradation rather than as a result of cultural, social, psychological and or environmental factors (Aasved, 2002).

The birth of Alcoholics Anonymous and the 12 Steps

In the mid 1930s one doctor - Dr Silkworth - viewed alcoholism as an illness rather than a moral failure or a lack of willpower. He believed that alcoholics were suffering from a mental obsession, combined with an allergy that made compulsive drinking inevitable and to break the cycle one had to completely abstain from alcohol use. He shared his opinions with an alcoholic patient of his - Bill Wilson - who had a strong belief in incorporating a spiritual aspect to the treatment of alcohol addiction. Together, their resulting philosophy was that alcoholics needed to realize that they couldn't conquer alcoholism by themselves, and that they needed to surrender to a higher power and work with another alcoholic to achieve a state of sobriety and sanity. This spiritual approach to the treatment of alcoholism became the foundation upon which AA was formed and would form the basis for the development of the 12 steps of recovery from alcoholism (Alcoholics Anonymous, 1984).

As summarized by the American Psychological Association (Vandenbos, 2007) and Narcotics Anonymous (2008), the 12 steps involve the following:

- Admitting that one cannot control one's addiction (i.e. powerlessness) (Step 1).
- Recognizing a greater/higher power that gives strength and provides guidance (Step 2 & 3).
- Taking an honest look at one's shortcomings as well as assets (Step 4, 5, 6 & 7).
- Examining past errors and mistakes with the help of a sponsor (an experienced member) (Step 8).
- Making amends for these errors and mistakes (Step 9).
- Learning to live a new life with a new code of behaviour and spiritual principles (Step 10 & 11).
- And lastly helping others that suffer from the same addiction (i.e. carrying the message to the alcoholic/addict/gambler/sex addict etc. who still suffers) (Step 12).

The disease comparison

Bloch (2007) argues, that addiction can be considered as a disease because it meets the criteria for inclusion among other terminal diseases namely: it has a pattern of symptoms which are similar across all types of substance abuse; it is a chronic condition; it is progressive (i.e. it gets worse with continued use and it can be fatal if left untreated); the person is subject to relapse and lastly it is treatable. While the reality is that addiction is a lifelong condition, it is no different to other chronic illnesses such as asthma, diabetes or heart disease in that it can be treated, controlled and monitored (Rosenthal, 2008), and the manner in which the disease is brought into remission is though complete abstinence from all mind altering substances (Coombs, 2001).The philosophy of total abstinence from all mind altering substances hinges on the assumption that the addicted person will never be able to regain control over the substance/behaviour once they become addicted (which is largely due to changes in the brain and the loss of control a person experiences over the drug/behaviour). However a handful of studies have shown that some drinkers and drug users after a period of abstinence have been able to return to a controlled state of drinking or occasional drug use. This however has been refuted by suggestions that these people were misdiagnosed as chemically dependent when in fact they more than likely fit the criteria for drug abuse (Henderson, 2000).

Narcotics anonymous and the disease model

Narcotics Anonymous (NA) was formed in 1953 by chemically dependent people who did not relate to the specifics of alcohol dependency (Narcotics Anonymous, 2008). Its 12 step programme is a set of guiding principles for recovery from drug addiction, compulsion and other drug seeking behaviours (Vandenbos, 2007). If the presentation of addiction as an overarching disease is to be understood, it is helpful to examine the manner in which it is presented within NA literature hence the following section will extract the main principles underpinning the disease concept of addiction.

Non specific drug language: the drugs are not the problem, the problem is a disease called addiction

According to NA literature of 2008, although the 12 steps of NA are based on the programme developed by AA, NA has broadened the perspective of AA. This means that while NA follows the

same path as AA they have a single exception: membership is open to all addicts, regardless of the particular drug(s) used. When adapting AAs' First Step, the word 'addiction' was substituted for 'alcohol', thus removing drug-specific language and reflecting the 'disease concept' of addiction (Narcotics Anonymous, 2008). In other words, identification as an addict is "all inclusive with respect to any mood-changing, mind-altering substance. Alcoholism is too limited a term for us; our problem is not a specific substance, it is a disease called addiction" (Narcotics Anonymous, 2008, pg. xv). This is highlighted in NA literature as it states: "even our name itself, Narcotics Anonymous, may not fully describe our membership. Addiction has nothing to do with where we come from or the specific substances we used" (Narcotics Anonymous, 2008, p. xix).

Hence the NA programme is supposed to encompass a broader range of the disease model that is not based on what behaviour/drug was used to alter consciousness. It developed the idea of powerlessness, placing special attention on de-emphasising the specific substance of dependence. For example in Alcoholics Anonymous, Step 1 states "We were powerless over alcohol" thus AA is for alcoholics, it is for people "whose basic condition is that of a fundamental alcohol-related limitation" (Ronel, 2000, p. 109). NA however stresses the entire process of dependency regardless of the particular substance involved. NAs step 1 thus states: "We admitted we were powerless over our addiction" thus the "NA program goes beyond the substance itself and defines a general "disease of addiction" (Ronel, 2000, p. 109). By emphasising that the substance used by a person is not what is of importance, but rather that it is "aimed at those obsessed with altering their states of consciousness by any external means" (Ronel, 2000, p. 111), it is not uncommon to hear members of NA share about external means (other than drugs) that they would use to alter their consciousness such as gambling or eating - hence encompassing a vaster application of the disease model (Ronel, 2000).

Minnesota model

The Minnesota Model is so named as it was originally developed in Minnesota U.S.A. during the 1950's. It is based on the disease concept of addiction; draws heavily from the 12 step programme of recovery and embraces the notion of abstinence. In addition, it is typically characterised by a multidisciplinary approach to treatment and strongly advocates that individuals should take responsibility for their recovery process (Hitzeroth & Kramer, 2010; Owen as cited in NIDA). Its core distinguishing feature - with regards to its therapeutic staff - is that this model draws on both

certified trained professionals and non-professional staff who have had personal experience with addiction (i.e. they are recovering addicts themselves) and while this model emerged over fifty years ago, it remains the most popular model within treatment settings today (Anderson, McGovern, & DuPont, 1999).

B. Systems integration

Addiction is often referred to as a family disease due to the fact that unhealthy patterns of interaction and communication emerge as a result of having an addicted person in a family (or any other system for that matter). Often family members and friends adopt maladaptive patterns of behaviour when relating to an 'addict' – known as co-dependency – and more often than not this results in friends and family enabling the addiction (Beattie, 1992). Due to this, friends and families of loved ones with an addiction often have to unlearn these unhealthy behaviours and start their own process of recovery (S. Rahme, 28 November 2010, Personal Communication).

Because the effects of addiction impact not only on the addicted person but also on families, friends, the workplace and so on, for optimal outcomes it is best to include all systems involved in the addicted person's treatment plan. Hence, it is useful to engage families or couples in the process and to refer them to organisations – such as Tough Love; Alanon etc. – that can offer them support (Freimuth et al., 2008). Hennigton (as cited in Hilarski & Wodarski, 2001) examined the role of social support in treatment outcomes using 180 male dually diagnosed subjects and found that greater social support influenced treatment participation and completion thus highlighting the value in involving support systems in treatment plans.

C. Integrated treatment

Recognising that SUDs do not often occur solitarily has had tremendous effects on treatment approaches to the addicted client group in what has emerged as a concept known as integrated treatment. However, what unfortunately occurs far too often is failure to assess for and identification of co-occurring addictions and disorders. As a result, the effectiveness of treatment is seriously undermined (Freimuth et al., 2008). Hilarski & Wodarski (2001) extrapolate on this thought as they explain that because assessment often relies on patient disclosure and because people with SUDs and psychiatric illnesses will often attempt to deny or minimise the effects of

their problems, it becomes difficult to accurately diagnose these patients. Moreover, many symptoms typical of addiction masquerade as psychiatric illness and it is critical for professionals to allow patients a period in which to 'clean out' (i.e. remain abstinent from all substances) before any reliable psychiatric assessment can be made (Hilarski & Wodarski, 2001).

Freimuth et al. (2008) provide an excellent example of the above when they highlight a case of a male alcoholic whose treatment was largely ineffective because an addiction to online pornography was not identified. As a result, the clinicians did not know that alcohol moderated his feeling of guilt associated with his behaviour and prior to the simultaneous treatment of both addictions he frequently relapsed. As a result, the use of integrated approaches to treatment is greatly needed and failure to identify and treat multiple dependencies is frequently associated with poor treatment outcomes namely relapse and increased risk for suicide (Substance Abuse and Mental Health Services Administration [SAMHSA], 2006). One reason that is commonly attributed to the poor identification of multiple dependencies is that treatment providers are usually effective in their specific field of training and unfortunately there are a small percentage of treatment providers who are trained to assess and recognise multiple dependency. For example, professionals working with substance addiction may be attuned to looking for drug and alcohol dependency and may overlook the behavioural manners in which the addiction has manifested. Mental health care professionals are often skilled at identifying psychological disorders such as depression and anxiety disorders and personality disorders but they may overlook the co-morbid occurrence of an addiction/s (Freimuth et al., 2008).

D. Therapeutic Approaches

Cognitive Behavioural Therapy

Various psychological approaches to the treatment of addiction (whether they be behavioural, cognitive or social learning in orientation) have tended to emphasise the common features of all addictive behaviours (Bradley, 1990; Orford, 1985). Cognitive-behavioural therapies (CBT) used in the arena of addiction often examine how a once voluntary action becomes compulsive in order to assist people strengthen their commitment to a process of change (Marks, 1990). Clients in treatment are often in a state of internal conflict and their goals fluctuate between wanting the drug and wanting to be free of it. It is likely that this is true for behavioural addicts as all the

addictions have positive hedonic states (Marks, 1990). CBT takes into account that addiction is a goal-orientated behaviour and assists the client in realising that the end goal is not desirable (Bradley, 1990).

Rooted in behaviourism and social learning theory, CBT emphasizes how an individual's perception and interpretation of life events act as important determinants of behaviour (Meichenbaum as cited in Carroll, 2008, Chapter 24, para 5). Hence a person's thoughts, feelings, and expectations will influence his/her response to the environment. CBT therefore aims to identify maladaptive thoughts and beliefs and to "teach [clients] how to notice, catch, monitor, and interrupt the cognitive-affective-behavioral chains and to produce more adaptive coping responses" (Meichenbaum as cited in Carroll, 2008, Chapter 24, para 5).

Motivational Interviewing

Previous treatment approaches to substance dependency have been based on the premise that addicts have to want to get help and have to hit "rock bottom" in order for treatment programmes to be effective and thus motivation to change "was viewed as the total responsibility of the patient" (DiClemente, Garay, & Gemmell 2008, Chapter 25, para 2). Treatment professionals have been known to engage in harsh and critical confrontation regarding clients' denial or to employ a "wait-it-out" attitude where the progression of the addiction would take its course and bring about devastation and consequences that would assist clients in admitting they needed help. This problematic lack of motivation was also felt by larger social systems (such as families, friends, employees, courts) who – in their frustration – "began to use incarceration or mandated treatment to manage substance abuse problems" (Loue as cited in DiClemente, Garay, & Gemmell, 2008, Chapter 25, para 2). And while such coercion increased treatment attendance it did not necessitate motivation to change (DiClemente, Garay, & Gemmell, 2008).

Because of the hedonic nature of addictive disorders together with the physiological and psychological reliance they produce and the denial that is needed to perpetuate the dependency, addicted individuals often refuse to acknowledge problems or seek treatment. It would be a grave mistake to assume that when addicted individuals arrive at a treatment programme that they do not experience a deep ambivalence and uncertainty about their need to stop. In fact "a significant number of individuals who enter a treatment facility fail to complete the treatment and many drop

out after intake or a single session" (Simpson and Joe; Wickizer et al., as cited in DiClemente, Garay, & Gemmell, 2008, Chapter 25, para 1).

Subsequently, there has been an increasing need for treatment providers to become more involved in preparing people for change and to employ more strategies that focus on increasing client motivation (Miller & Rollnick, 2002). Motivational interviewing (MI) is one such technique and has been defined as "an effective evidence-based approach to overcoming the ambivalence that keeps people from making desired changes in their lives, even after seeking, and being referred to professional treatment (Miller & Rollnick, 2002, front jacket).

Psychotherapy

Perkel (as cited on www.addictionology.co.za, November 2010) suggests that:

> addiction is not a disease in the sense that you 'catch it', like a cold. It is a disease in the sense that it develops a life of its own which must be treated. But underneath those destructive urges and patterns lie experiences, feelings, wants, and psychological injuries. Without addressing … the unconscious drivers [that are unique to each addict's life experience] that create and feed the addictive patterns, it is difficult to become truly free of them.

He continues to discuss that ideally treatment should consist of two approaches: firstly the addiction itself and the patterns that characterise the disease would need to be dealt with directly, in order to facilitate changing them (these are often common across addicts and addictions). CBT approaches – as described above – are helpful in order to assist with this. Secondly the unconscious drivers that created and maintained the addictive patterns would need to be tackled (these would be unique to each patient) and "this is where psychotherapy is useful alongside other drug programmes – as it gets past the outer patterns and addresses the inner problems too at a deeper level" (Perkel, 2010).

Keane (2000) in her thorough discussion of recovery is in agreement with the above notion in that recovery will involve a learning of the basics concerning addiction and practical tools on how to stay clean, and will also have to involve a deep understanding of the self. However, she notes that the focus of work will vary in different stages of the recovery process. For her, early recovery is about a "practical problem-solving approach to life without the use of addictive chemicals and behaviours"

(Keane, 2000, p. 332) as recovering addicts are introduced to a new, foreign way of life and "the culture of sobriety needs instructions on how to fit in". By applying this approach to life, recovering addicts are able to "gather momentum", obtain some clean time and build some "emotional stability" which in turn allows the deeper more "advanced" process to unfold (Keane, 2000, p. 332).

Relapse prevention

Due to the basic nature of addiction, relapse has come to be an anticipated aspect of treatment (Hilarski & Wodarski, 2001) and has been cited as one of the biggest factors contributing to the **"revolving door syndrome"** which refers to the high rates of treatment recidivism (Hilarski & Wodarski, 2001). Because of this relapse prevention efforts have become a major part of treatment.

The majority of relapse prevention programmes are based on cognitive behavioural therapy and social learning theory. Its premise is that by changing how one thinks and behaves, one can unlearn behaviours that are problematic (Hitzeroth & Kramer, 2010). These programmes endeavour to help clients identify high risk situations and to equip them with the skills they need to avert relapse in the future. Frequently the analogy of a car journey is employed in which a driver must prepare his journey by taking into account the best possible route, alternative routes and possible rough roads or road blocks. The driver should also be aware of what his vehicle can and cannot do and must accept that he may have to turn back if the road ahead is too dangerous to continue on (Cummings, Gordon, & Marlatt, 1980). So too, a person in recovery needs to frequently be aware of his/her triggers, possible high risk situations and ways in which to deal with them. Furthermore he/she needs to be aware of his/her limitations and must eventually come to terms with the fact that previous activities may now be too 'dangerous' for them in that they will almost certainly result in relapse (Cummings, Gordon, & Marlatt, 1980).

Now that the main biological and psychosocial approaches have been considered it is worth mentioning that particular models dominate at specific stages of the treatment process for example the medical approach may lead the intervention as a person is safely detoxified from all chemicals. He/she may then enter a 12 step treatment programme which combines cognitive behavioural therapy, psychotherapy and relapse prevention efforts (Hitzeroth & Kramer, 2010). What is important therefore is that professionals are employed who are suitable to render services in these

areas and that they work collaboratively as a multi-disciplinary team so as to ensure that client's receive appropriate treatment (Hitzeroth & Kramer, 2010).

4. RESPONSE TO TREATMENT: RELAPSE OR RECOVERY

4.1. RELAPSE

Relapse is defined in a medical sense as "the return of signs and symptoms of any disease after an apparent recovery". In the context of addictive behaviour, a relapse could be thought of as "a temporary or permanent return of the addictive illness after a decision was made to be abstinent" (Hitzeroth & Kramer, 2010, p. 173). It is characterised by the return of an addictive pattern and thus does not refer to a singular incident of use which would rather be referred to as a lapse. A lapse however if not treated immediately could very possible turn into a relapse (Hitzeroth & Kramer, 2010).

<u>The relapse cycle</u>

Washton (as cited in Lewis, Dana & Blevins, 1994) notes that a variety of sequences of events can contribute to relapse and provides an outline of a 'relapse chain' that highlights the process:

1. An event/build up of stress causes positive/negative change.
2. This activates either positive/negative feelings.
3. This causes the person to either take action in a positive or healthy manner (in which case the relapse cycle would not progress) or it causes over-reaction or failure to take action in response to the situation or stress. This often leads to an escalation in stress (and the relapse cycle continues).
4. The person insists that the problem doesn't exist or minimises the extent of the problem.
5. The result is an escalation of stress (which creates a 'snowball effect') as the person continues to ignore the problems.
6. At this stage they believe that things are 'too far gone' and may feel incapable of doing anything about it.
7. The person frequently finds him/herself in high risk situations and engaging in self-sabotaging behaviour.

8. This may cause the person to feel that things are 'getting out of control'.
9. The person continues to isolate from their support system.
10. At this point, positive thoughts about the 'good times' return and this triggers obsessive thoughts about using.
11. The person experiences cravings.
12. Eventually the person uses, which in turn acts as a trigger and the cycle is set into motion once again.

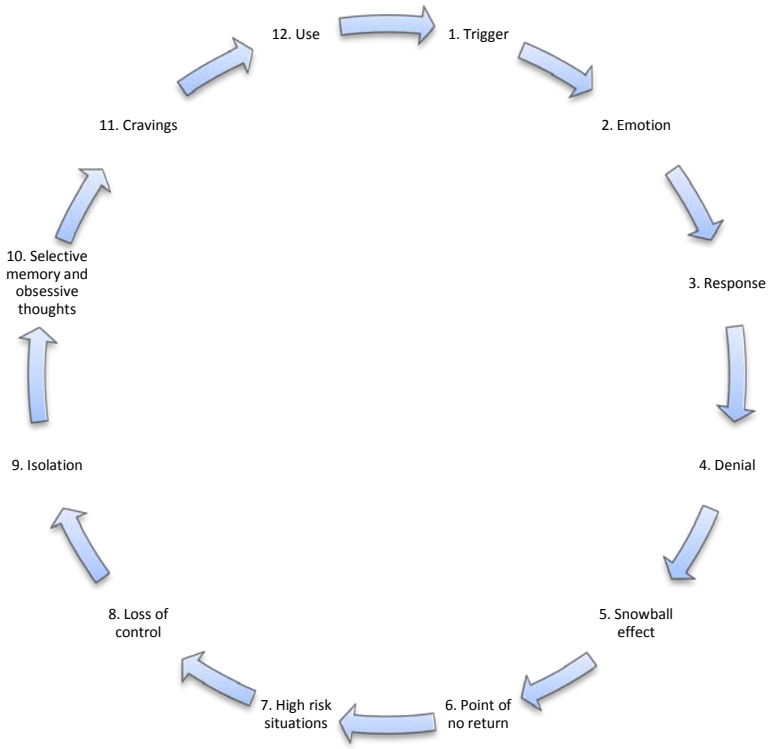

Figure 2: The relapse cycle

This chain of events describes a typical relapse cylce that can take place over an extended period of time or in rapid succession (Figure 2). The aim of relapse prevention is to eductae clients on the process so they are able to interrput the cycle when a life issue (trigger) presents itself (Lewis, Dana & Blevins, 1994). From the above, one can conclude that relapse involves far more that simply a resturn to using drugs or alcohol as it is a predictable process with identifiable stages (Dye & Fancher, 2008). Gorski (2001) echoes this in his writing as he notes that it is a "progressive process of becoming dysfunctional in recovery [until] self medication with alcohol or drugs seems like a reasonable choice" (www. tgorski.com).

External cues

In the previous chapter the process of looking at how the brain's reward system becomes over activated with the experience of a 'reward' (be it a substance or a behaviour) was examined. It was also explained that continuous and habitual activation of the reward system results in a once voluntary behaviour becoming compulsive and addictive. Taking this into account, an important element that needs to be mentioned is that whilst an individual is engaging in the act of their addictive behaviour (for example snorting cocaine, playing poker, drinking alcohol) they also become conditioned to various cues that are connected to their addiction (Marks, 1990). In other words, the more a behaviour is repeated the greater the habituation to the triggering cues becomes cemented, and individuals become conditioned to the environments in which they act out their addiction. Often the people, places, things, smells, and routines they engage with become cues and act as triggers causing a person to experience craving and then possibly relapse as the brain's 'go' system is reactivated with little or no feedback from the 'stop' system (Froemke, & Cormier, 2006).

In fascinating research conducted at the University of Pennsylvania School of Medicine (Froemke, & Cormier, 2006), researchers used brain imaging techniques to examine how much was needed to trigger the brain's reward system. Subjects were shown a set of pictures containing drug cues and the brains reward system or 'go' system was activated with as little as thirty three milliseconds of exposure - literally outside of awareness, making it exceptionally difficult for the message to be intercepted by the frontal lobes. This means that the brain's stop system has no chance of assessing the potential courses of action as "it's coming in under the radar before you have a chance to mount a defence". As a result, many medications prescribed to addicted people (such as Baclofen) assist them in slowing down the impulse to act on a 'go' moment so that the brain has a chance of weighing up its options so as to make informed and good decisions (Froemke, & Cormier, 2006).

Examples of external cues would include: a heroin addict who used to use intravenously may feel triggered upon seeing a poster for HIV with a close up of a person injecting themselves; a gambler who used to spend his days at a race track may feel triggered upon passing a bookie store or a smoker who started the day with a cup of coffee and a cigarette may feel triggered to smoke after drinking his/her first morning cup of coffee. Another important factor to consider is that while all addictions overlap significantly, each of the various behavioural and chemical dependencies will

involve their own unique set of triggers and symptoms. Hence professionals need to be aware of the detailed minutiae connected to each (Marks, 1990).

This environmental 'cueing' has important implications for treatment as professionals need to consider that stopping an addiction –whether it be substance based or behavioural based – is actually quite manageable, the difficulty is in the maintenance. Even if people have been clean for not only a few weeks or months but several years, the tendency to relapse is very strong and the tendency to relapse shouldn't be seen as a failure of treatment but as a "part of the disorder" (Childress, as cited in Hoffman Froemke, & Cormier, 2006). A longitudinal drug study conducted in Norway over a 25 year period highlighted the above as approximately 32% of the sample had died upon follow up, and a harrowing 75% of the deaths were drug related, thus indicating the omnipresence of the disease (Gjeruldsen, Myrvang, & Opjordsmoen, 2003). Subsequently relapse prevention programmes have become of paramount importance in effective treatment (Marks, 1990).

Internal cues

Negative affective states (anxiety, low self esteem, depression, poor self image) play an important role in the experiences of craving and relapse. In a study conducted by Hershon (1977), it was reported that 80% of patients reported relapsing to alcohol due to feelings of anxiety or depressed mood whereas less than 25% reported relapsing as a result of alleviating their physical withdrawal symptoms. Annis, Sklar and Mosr (1998) confirmed this finding as negative emotional states were the most common cited reason for relapse. This fact will have important implications for treatment as negative emotional states can impact significantly on a person's ability to stay clean and sober.

Craving

The definition of craving varies from author to author, however it is generally thought of as a subjective experience in which an individual feels a compelling urge or a profound wish or desire to use a substance (Halikas, 1997). In the *Alcohol Alert* of October 1989 (as cited in Potgieter, Deckers, & Geerlings, 1999, p. 255), craving is described of as an "emotional-motivational state of appetitive urge, like hunger, characterised by withdrawal-like symptoms. Symptoms are elicited by internal and external cues evoking memory of euphoric effects …or discomfort from withdrawal".

According to several authors (Potgieter, Deckers, & Geerlings, 1999) there are three main components to craving namely: loss of control; intrapersonal temptation and response to cue exposure whereas Galanter and Kleber (2008) note that cravings can be divided into two categories namely cravings as a result of exposure to cues or cravings as a result of an acute stressor or a state of stress.

4.2. RECOVERY

4.2.1. The Addiction Recovery Model

Within the addiction-recovery model, addiction is viewed as permanent disease that infiltrates into all aspects of a person's life (namely physically, emotionally, psychologically, spiritually, sexually and so forth) that if treated can be managed but not cured. Hence the goal of treatment is to arrest the disease so that it exists in a state of remission so to speak which allows the person to recover (Keane, 2000). **Recovery** therefore extends beyond abstinence but involves profound introspection and work on the self as Keane states:

> recovery is not simply abstaining but involves a rhetorical and performative practice. One becomes a recovering addict by doing and saying the things that recovering addicts do and say … abstinence is only the beginning of the project of recovery not its fulfilment. Genuine and deep recovery, the sort that brings enlightenment and peace, requires a psychological overhaul, systematic work on and with desires and emotions. (Keane, 2000, p. 331)

Hence the ultimate goal of rehabilitation and recovery is about lifestyle change that includes abstinence from mind and mood altering chemicals and behaviours. According to D'Oliviera (as cited on www.addictionology.co.za, November 27, 2010), "Recovery literally means healing. Being in recovery would imply that someone is working the 12 step programme and is abstinent of problematic behaviour". It is hoped that while in a treatment programme (such as a rehabilitation centre), the addicted person will develop healthier coping mechanisms together with more adaptive social and life skills (Hitzeroth & Kramer, 2010), while addressing the underlying dynamics that fuelled the development of the addiction to begin with (Perkel, as cited on www.addictionology.co.za, November 27, 2010). Rehabilitation and recovery therefore aim to integrate addicted persons back into society as productive members who practice a holistic programme of recovery (Hitzeroth & Kramer, 2010).

Important to remember is that relapse is an anticipated part of the process in treating addiction and while the person is in recovery, the 'identity' of the addict remains intact making relapse a constant threat (Hitzeroth & Kramer, 2010). Often recovering addicts use the analogy of their 'addicts' doing push-ups in the parking lot while they are in sitting in meetings waiting patiently for an opportunity to use and when that happens, their addict returns with a strong vengeance (Carastavrakis, November 28, 2010 Personal Communication). Based on the total revolution that recovery necessitates, and taking into account the insidious nature of denial and 'selective memory' that appears to go hand in hand with the disease of addiction, the need for long term care management (known as aftercare) is crucial (Pederson & Hesse, 2009).

4.2.2. Aftercare

A further obstacle in the treatment of addiction - which is related to the ongoing need for vigilance and adherence - is that frequently addicts, after being clean for a while, convince themselves that they can return to a state of controlled use (Bradley, 1990). They believe that they will be able to return to a state of voluntary use, much like they experienced prior to becoming addicted, severely undermining and disregarding all evidence that once they start again, the compulsion is almost certain to re-emerge (Bradley, 1990). It is precisely for this reason that addiction is repeatedly referred to as the 'disease of forgetfulness' (S. Rahme, personal communication, 16 November 2010). Keane (2000, p. 328) reinforces this as she notes that a 12 step handbook warns that "recovery requires constant vigilance and that complacency and forgetfulness are its enemies … there is no safe resting point in recovering".

Therefore just like a diabetic patient has to drastically change his/her dietary habits and lifestyle in ways that are often arduous, so too the addict in recovery has to change several aspects of life and often in very drastic ways (Bradley, 1990). Thus treatment adherence and long term treatment management are critical factors in the maintenance of sobriety and clean time.

5. THE DISEASE OF ADDICTION IS AN OCTOPUS: UNDERSTANDING THE APPLICATION OF THE DISEASE MODEL AND MULTIPLE DEPENDENCY

The octopus is an amazing creature. They are characterised by having eight tentacles and a large globe shaped head and because they are invertebrates they lack any form of skeletal structure. As a

result of their 'bonelessness' they are highly flexible –a trait which allows them fit through a variety of shapes and forms (www.octopus.com, 2010) and due to its ability to take on a variety of forms it may be thought of as an aquatic 'shapeshifter'.

Addiction may be conceptualised to exist in much the same way as the octopus. It is able to take on a variety of forms depending on how it manifests. So one way in which addiction may present itself is in the form of drug dependency, another way is alcohol dependency, another in gambling or sex or food and so forth (and in most circumstances in combinations of more than one).

6. CONCLUSION

From this chapter it should be evident that the treatment of addiction is complex and multi-faceted and professionals working with addiction require a very specific skill set and knowledge base from which to depart. Although aetiological explanations concerning addiction and appropriate manners in which to treat it are far from universal, theory concerning approaches to addiction has grown significantly over the last few years. With this has come a dramatic shift in contemporary treatments of addiction - which continues to expand, as does our advancement of technology and developments in the neuro-circuitry of the brain. No single approach can stand alone as 'The One' that is able to account for all aspects of addiction and as such professionals are best served by drawing on a range of theories and treatment approaches to inform and guide their practice so that ultimately the clients' best interest is served.

CHAPTER FIVE

RESEARCH DESIGN AND METHODOLOGY

1. INTRODUCTION

The research process is one of systematic inquiry that is designed to collect, analyse and interpret data where after this data are utilised to understand, predict or control phenomenon (Mertens, 2005). In order to fulfil this task, research projects are based on a design (the plan upon which the research is formulated) (Babbie, Mouton, Vorster, & Prozensky, 2005) and a methodology (the general approach to the research) (Leedy & Ormrod, 2010), in order to answer the questions the project set out to address (Durrheim, 2006). This chapter provides the research design and methodological framework employed in the study. The research questions, primary aim and secondary objectives are listed so as to outline what the research intended to attend to. In addition, the research design is discussed as are the strengths and limitations to the approach taken. Finally, the research methodology is discussed in terms of: sampling procedure, research instrumentation, piloting of the tools, data collection and data analysis. Lastly, ethical considerations are outlined.

2. RESEARCH QUESTIONS

- How do service users (people recovering from addiction/compulsive behaviours) understand addiction/compulsion and are there variations in the way that they understand addiction?
- How do service providers (lay counsellors, psychologists, social workers) understand addiction/compulsion and are there variations in the way that they understand addiction?
- How are different understandings of addiction related to treatment plans?
- What are treatment providers' perceptions on how different treatment plans affect treatment outcomes namely relapse and the ability to maintain sobriety/abstinence?

- How do different understandings of addiction, personal variables, impulsivity, sensation seeking and perceived stress affect treatment outcomes namely relapse and the ability to maintain sobriety/abstinence?

3. AIM AND OBJECTIVE

3.1. PRIMARY AIM

The primary aim of this research was to investigate how service users and service providers in the addiction industry understand addiction and how different understandings of addiction affect a). treatment plans and b). treatment outcomes (specifically relapse and the ability to maintain sobriety).

3.2. SECONDARY OBJECTIVES

The secondary objectives included:

- To explore how service users understood addiction and to establish if variations of understanding existed.
- To explore how service providers understood addiction and to establish if variations of understanding existed.
- To ascertain how various understandings of addiction affected the type of treatment plan followed.
- To determine how treatment provider's perceived various treatment plans affecting treatment outcomes namely relapse rates and the ability to maintain sobriety.
- To establish how different understandings of addiction, personal variables, impulsivity, sensation seeking and perceived stress affected treatment outcomes namely relapse and the ability to maintain sobriety/abstinence.

4. RESEARCH DESIGN

4.1. GOAL OF THE RESEARCH

The research conducted was non experimental as it did not aim to test any causal relationships between any of the variables of interest. Rather it aimed to describe relationships between the variables under investigation and thus it was considered correlational (Salkind, 2009).

4.2. USES OF RESULTS

This study can be thought of as both basic and applied research. Basic research or pure research often enhances basic knowledge about the world – whether it is biologically, physically, socially or psychologically – and thus it serves to augment an already existing body of information. It is often used to test a theory or to improve and broaden already existing theory (Stark & Roberts, 2002). Applied research on the other hand aims to address issues and concerns that have immediate relevance to current practice, policy or procedure (Leedy & Ormrod, 2010). This research hopefully outlined and highlighted current, topical issues relating to the theory of addiction whilst simultaneously critically assessing current treatment approaches to the treatment of addiction and the implications these have on treatment outcomes.

4.3. DESCRIPTION AND RATIONALE OF THE RESEARCH PURPOSE

The research purpose of this study was exploratory as well as descriptive. It was exploratory in nature as it endeavoured to make an introductory investigation into a fairly unknown area of research (Buckingham & Saunders, 2004) especially within the South African context. Exploratory research is open and flexible in its approach and works from an inductive stance as it attempts to discover new insights into the phenomenon under investigation (Durrheim, 2006). In addition, it was considered as descriptive as it detailed a variety of characteristics of the phenomenon of the study. Hence it provided a broad picture of the topic which assisted in contextualising the issue of the study. Once the characteristics were described meaning could be attached to any differences noted (Salkind, 2009).

4.4. DESCRIPTION AND RATIONALE OF METHOD OF INQUIRY

The research design was triangulated in that it drew on elements from both quantitative and qualitative paradigms.

4.4.1. Quantitative

Purpose

The main purpose of quantitative research is twofold: firstly, it seeks to discover the dynamics that regulate causal sequences of events (Davidson, Wieland, Flanagan, & Sells, 2008) and secondly, it aims to confirm or establish relationships between these variables and to develop generalisations about these relationships (Leedy & Ormrod, 2010). In order to do this, quantitative research typically aims to produce exact explanations and findings which can be generalised to other people/places/ situations (Rubin & Babbie, 2010) and as such the focus of quantitative research is numbers, amounts and measurements (Davidson et al., 2008; Thomas, 2003).

Process

Much quantitative research is designed in advance, remains constant throughout and is guided by strict procedure where the researcher attempts to remain as objective as possible and strives to adhere to protocol with no deviation (Rubin & Babbie, 2010).

Data collection

In order to achieve the above goal, variables of interest are first identified and then quantities of these variables under investigation are examined using one of two satisfactory measures namely: acceptable measures of the physical world (rulers, thermometers, gauges) or carefully designed measures of a psychological construct (surveys, questionnaires, standardised tests) (Leedy & Ormrod, 2010). Regardless of the method of measurement, significant attention is paid to the validity and reliability of instrument. Data are collected from a population or from one (or more) large sample that is representative of the population in a form that is easily converted into numbers (Davidson, Wieland, Flanagan, & Sells, 2008).

Data analysis

Analysis of quantitative data is usually performed via statistical methods and results are often reported in the form of averages (means, medians, modes) and correlations (Leedy & Ormrod, 2010). Analysis is therefore highly formalised which allows for greater researcher objectivity (Padgett, 1998). Characteristically, this paradigm is based on deductive reasoning namely "reasoning from the general to the specific" (Stark & Roberts, 2002) in that that certain hypotheses are held prior to the study from which logical conclusions can be drawn (Leedy & Ormrod, 2010).

Strengths of a quantitative research design.

As outlined above and summarised by Neuman (2000), the strengths of using a quantitative approach in this research included:

- Specific research questions were identified prior to commencing the study which remained constant throughout the study thus providing focus and structure.
- Procedure and protocol were designed before the study began.
- The variables under investigation were operationally defined and hence were capable of being measured. They consisted of personal variables (such as clean time, attendance of 12 step meetings, history of treatment; relapse); sensation seeking; impulsivity and perceived stress.
- Measurement was scientific in nature and constructs were measured with rating scales, frequencies and standardised/modified psychological tests.
- The research procedure was fixed and standardised allowing for replication.
- Data collection was applied in a standardised manner and all participants received the same questionnaire.
- A value free stance could be adopted by the researcher.
- The researcher was able to adopt an etic/outsider perspective.

Limitations of a quantitative research design

Despite having numerous benefits, the use of quantitative research also had several limitations (Franklin, 2008). These are bulleted below.

- Quantitative data cannot record emotion, feelings or nuances.
- Participants were limited with their answers as the standardised tests and questionnaires were very structured.
- Findings are subject to error when one attempts to generalise beyond the sample.

4.4.2. Qualitative

Purpose

The main purpose of qualitative research is to gain a better, deeper understanding of complex issues and as such the focus of this paradigm is on meaning (Peat, Mellis, Williams, & Xuan, 2002). "Qualitative implies an emphasis on processes and meanings that are not rigorously examined or measured (if measured at all) in terms of quantity, amount, intensity or frequency" (Denzin & Lincoln, 1994, pg. 4). Furthermore, qualitative research stresses the socially constructed nature of reality as it asks people "to tell us stories of their everyday lives, as completely and full of rich descriptive detail as possible" (Davidson et al., 2008, p. 256). People are hence viewed as active agents in life who are consistently making sense of their experiences within social and cultural contexts (Davidson et al., 2008).

Process

Because the qualitative researcher is prepared to become immersed in the complexities of social issues, this paradigm does not follow a strictly formalised approach (De Vos et al., 2005) but rather encompasses the value of flexibility (Davidson et al., 2008). The researcher aims to attain a 'first hand' understanding of the phenomena and a such the researcher is far more elastic throughout the course as often the focus, design, instrumentation and categories emerge and change throughout the process (Leedy & Ormrod, 2010). Qualitative research therefore typically allows for greater flexibility as the researcher is guided by participants' subjective experiences and understandings (Rubin & Babbie, 2010).

Data Collection

The qualitative paradigm is founded on the belief that "reality is not easily divided into discrete measurable variables" and hence the majority of qualitative data are collected via personal involvement on the part of the researcher (i.e. through interviews or observations) (Leedy & Ormrod, 2010, p. 98). In addition, rather than drawing a large sample in order to infer

generalisations, this framework selects fewer participants who can "shed light on the phenomenon under investigation" (Leedy & Ormrod, 2010).

Data Analysis

From the large body of data that is generated from qualitative research, various themes and patterns are subjectively identified. Furthermore, this paradigm relies most usually on inductive logic namely "reasoning from the specific to the general" (Stark & Roberts, 2002) and from the many observations that are made inferences can be made to the phenomenon under investigation (Leedy & Ormrod, 2010).

Strengths of a qualitative research design

As outlined above, the strengths of using a qualitative approach (Davidson et al., 2008; Neuman, 2000) in this research included:

- First hand, detailed and in depth descriptions of participants working experiences could be explored as could their understanding of the issue under examination.
- A relatively sparse topic of research could be explored.
- Because qualitative research is interested in exploring people's experiences in their natural setting, the questions that were asked in both the questionnaire and interviews were appropriate to: the setting of participants, the participants themselves and the topic of the study.
- Information gathered was reflective of what the participants themselves experienced or continue to experience as being relevant, rather than what the researcher believed to be important.
- One on one interviews allowed the researcher to gather rich descriptions of how participants construct their social world and what meaning they assign to it.
- Due to the fact that stigma continues to be big variable when dealing with certain 'pathology', qualitative research adds a much needed 'empathic bridge' in that it helps develop insight into the realities of what it is like for people to live with these issues it thus helps create deeper understanding of these people's experiences and aids in "humanizing these illnesses".

- The researcher did not have to adopt a detached stance but rather could assume an emic or insider perspective.

Limitations of a qualitative research design

Despite having numerous benefits, the use of the qualitative paradigm also had several limitations (Neuman, 2000; Peat et al., 2002; Punch, 2005) such as:

- The response rate was poor as many participants from sample one failed to return their questionnaires.
- The interpretation of the open ended questions, interviews and the data analysis may have been influenced by researcher bias and subjectivity.
- Qualitative research is time consuming due to the intensity of data collection and analysis.
- The small sample size of sample two (N=20) limited the potential for providing average trends and representation of the larger population.
- Qualitative research could not be used to test a hypothesis.

4.4.3. Triangulation

Triangulation refers to the use of several methods and various sources of data in a research project in order to strengthen interpretations and conclusions in a study (Mertens, 2005). It has been advocated that by using a triangulated approach, the researcher is able to compensate for the bias involved in a 'single-minded' approach. It also allows the researcher to gather a variety of perspectives on the phenomenon which produces a more holistic and complex picture of the issue which might not have been discovered if only one method were utilised (Liamputtong & Ezzy, 2007).

According to Liamputtong and Ezzy (2007), there are four forms of triangulation:

1. Data source triangulation: the use of more than one source of information.
2. Methods triangulation: the use of more than one research methodology.
3. Researcher triangulation: the involvement of a variety of researchers in the process.

4. Theory triangulation: the use of multiple theoretical perspectives in order to present a variety of perspectives which may produce new insights.

Out of the four categories, this research employed three forms of triangulation namely: data source triangulation (information was gathered from professionals working with addiction and from people affected by addiction); methods triangulation (interviews, qualitative questionnaire, standardised psychological tests, rating scales) and lastly theory triangulation (as was evidenced in the review of the literature).

Strengths of adopting a triangulated approach

According to Punch (2005), the strengths associated with using a triangulated approach include:

- Maximisation of the strengths of both approaches – by using both quantitative and qualitative approaches this research capitalised on the strengths inherent in each individual approach by combining them.
- Compensation for the weaknesses of each approach – what the one approach lacked the other made up for and vice versa.
- By combining both approaches the researcher was able to provide a wider perspective on the matter.
- Both researcher and participant perspectives were included – quantitative research allowed the researcher to use his/her ideas and perceptions while qualitative research was guided completely by the participants' viewpoint.

Limitations of a triangulated approach

- While it has been scorned by many theoretical purists who advocate for the exclusive use of one form of design (namely quantitative or qualitative) a triangulated design can assist researchers in obtaining an in depth understanding of a phenomenon as it is explored from a range of varying perspectives (Kelly, 2006). Furthermore Padgett (1998) stresses that one benefit of using triangulation in a qualitative study is that it increases the study's trustworthiness and rigour, consequently the combination of designs assists the researcher in overcoming the limitations inherent in each approach.

- While triangulation may be 'labour intensive', if similar results are generated using different approaches, it can certainly increase the validity of research findings (Kelly, 2006; Padgett, 1998). Lyons (2007) reiterates this and asserts that if findings are compared and found to be similar one can have greater confidence in their interpretation and in the overall credibility of the research.

5. RESEARCH METHODOLOGY

5.1. SAMPLING PROCEDURE

Researchers gather their data from a variety of sources which comprise their sample and the process in which they are selected is referred to as sampling (Leedy & Ormrod, 2010). Ideally, a sample should be drawn from a population in such a way that the results do not reflect any bias. One way in which to achieve this is by drawing a random sample (probability sampling) which ensures that the selection of participants was done in such a way that everyone in the population had an equal chance of being included for selection (Dunn, 2009; Haslam & McGarty, 2007). However, according to Miles and Banyard (2007) it is very difficult in practice to utilise random sampling as in some cases it is virtually impossible to achieve and as such it reflects an ideal rather than a reality. Hence the research consisted of two samples which were both drawn using non probability sampling. While this type of sampling procedure acknowledges that not every person in the population has an equal opportunity of being included in the sample (as there will be no randomisation in the process) there is a growing trend that recognises that non-probability samples can represent a population with a certain amount of credibility if the selection is conducted with the "goal of representativeness in mind" (O'Leary, 2004, p. 109).

The samples involved in the study were divided into two groups namely:
Sample one: Service users (people recovering from addiction/compulsive behaviours) (N=78)
Sample two: Service providers (professionals working with addiction) (N=20)

5.1.1. Sample one

Sample one was drawn using two forms of non-probability sampling known as convenience sampling and snowball sampling as accessibility to certain participants was a significant obstacle in

this study. For example, Alcoholics Anonymous declined to consent to allow the researcher to attend meetings in order to recruit participants, while Sex Addicts Anonymous initially consented to allow the researcher to attend meetings however this was later withdrawn due to the sensitive nature of their meetings. As a result, snowball sampling was used to recruit participants from the above two fellowships. In addition two fellowships – namely self mutilators anonymous and eating disorders anonymous – had temporarily closed due to lack of membership and poor attendance and snowball sampling had to be used again to recruit participants. Hence the majority of meetings that were attended those of Narcotics Anonymous, Overeaters Anonymous and Gamblers Anonymous

Convenience Sampling

Convenience sampling consists of people who are "most readily available and willing to participate" (Payne, 2007, p. 74). A total of twelve 12-Step fellowship meetings (seven Narcotics Anonymous meetings, two Gamblers Anonymous meetings and three Overeaters Anonymous meetings) were attended where members were invited to participate in the study. It is approximated that one hundred and twenty questionnaires were disseminated.

Snowball Sampling

Snowball sampling involves the process of gathering participants through contacts and referrals. In this case participants may direct the researcher to their peers or people they are familiar with that share the criteria for inclusion (Durrheim & Painter, 2006). It is approximated that fifty persons were contacted via snowballing and invited to participate in the study.

The aim for sample one was to secure one hundred participants representing a variety of addictions/compulsive behaviours so as to take the goal of representativeness into account. Ultimately seventy eight participants were involved in the study and the sample comprised of male and female (eighteen years or older) individuals recovering from an array of addictions such as drug addiction, alcoholism, sex addiction, pathological gambling, self-mutilation and eating disorders. The 12-Step meetings that were attended in order to recruit participants were largely in the Northern Suburbs areas of Gauteng, thus sample one may not be necessarily representative of all recovering addicts who attend meetings. Furthermore the utilisation of non-probability sampling precludes generalization of the results to the broader population of recovering addicts attending 12 step meetings.

Table 4: Sampling procedures used with sample one (N=78)

Meeting/members	**Type of sampling procedure**
Narcotics Anonymous	Convenience and snowball
Sex Addicts Anonymous	Snowball
Gamblers Anonymous	Convenience
Overeaters Anonymous	Convenience and snowball
Alcoholics Anonymous	Snowball
Self Mutilators Anonymous	Snowball (In the six months that lapsed from the time the research was proposed to the time it began, these meetings had closed down and as such were no longer in existence).
Eating Disorders Anonymous	Snowball (In the six months that lapsed from the time the research was proposed to the time it began, these meetings had closed down and as such were no longer in existence).

5.1.1.1 Criteria for sample one

Inclusion criteria for sample one:

- Male and/females eighteen years of age or older;
- Have personally experienced one or more forms of addiction/compulsive behaviour

Exclusion criteria for sample one:

- People who have used addictive substances or behaviours but who did not develop a problem with addiction/compulsive behaviour

5.1.2. Sample two

The second sample was drawn using non-probability purposive sampling. According to Payne (2007), purposive samples consist of a strictly defined group who are selected on the basis of certain criteria which must be explicitly stated and explained when reporting the research findings. Rubin and Babbie (2010, p. 147) note that purposive sampling can also be thought of as a judgemental sample as it is sometimes appropriate for the researcher to select a sample based on the researcher's own "knowledge of the population, its elements and the nature of …research

aims" hence the researchers judgement is an effective tool in selecting a sample that is in line with the purpose of the study.

The second sample consisted of male and female professionals who render direct services to people who are addicted in the form of individual/group therapy or counselling. Ultimately the sample consisted of twenty participants consisting of social workers and counsellors who work in rehabilitation and treatment centres. As there are various forms of rehabilitation centres and treatment centres in South Africa such as inpatient vs. outpatient; private vs. government funded, the sample was purposively selected so as to be representative of this.

Table 5: Composition of sample two (N=20)

	Private	**Government Funded**
Inpatient	8 participants	7 participants
Outpatient	2 participants	3 participants

5.1.1.2. Criteria for sample two

Inclusion criteria for sample two:

- Social workers and lay counsellors who work predominately with addiction in the direct services of therapy/counselling with a minimum period of two years working experience in the field of addiction.
- Social workers and lay counsellors who work in treatment/rehabilitation centres in the direct services of therapy/counselling with a minimum period of two years working experience in the field of addiction.

Exclusion criteria for sample two:

- Social workers and lay counsellors who may encounter addiction in their work generally but who do not have a special interest in addiction.

5.1.3. Limitations of non probability sampling

- The biggest downfall of non-probability sampling lies is in its inability to generalise findings (Smith & Eatough, 2007). While it was not feasible in this study to undertake a probability method of sampling, the goal was to obtain a sample size of 100 participants from the first sample. Although this did not come to fruition (due to various challenges in the data collection) by combining the quantitative sample (sample one) with the qualitative sample (sample two) this research may speak to possible trends inherent in both populations which could be confirmed with replication of the study involving larger, more representative samples.

5.2. RESEARCH INSTRUMENTATION

5.2.1. Description of the research instruments

According to Bickman and Rog (1998), it is crucial that the research instruments used in a study complement the research design employed and due to the fact that this study was triangulated, two different research instruments were utilised in this research. The first was a self developed questionnaire which was used with sample one and had elements of both a quantitative and qualitative nature. The second was a semi-structured interview schedule which used with sample two and it was purely qualitative in design.

5.2.2. Research instrument one: The self developed questionnaire

A questionnaire exploring participants' understanding of addiction which also measured factors that contribute to relapse was distributed to participants[1] (Please refer to Appendix A). According to Fife-Schaw (2000), the questionnaire is the most common research tool as it is versatile, simple to administer and inexpensive. It is considered a form of survey that consists of "a set of questions

[1] The lack of a standardised research instrument to measure specific factors that contribute to recovering addicts' relapse and the ability to maintain sobriety within a South African context, necessitated the development of such a research tool and also called for the modification of three American based questionnaires. While this has implications for the reliability and validity of the study, other attempts to control effects on reliability, validity, trustworthiness and rigor were taken (as will be discussed later in the chapter).

to be answered by a research participant" (Haslam & McGarty, 2007, p. 107) and it is one of the most common instruments for gathering information (Buckingham & Saunders, 2004).

The questionnaire that was utilised is known as a cross sectional survey as it was administered to respondents only once. There are numerous factors that contribute to the design of a good questionnaire, the questionnaire was therefore designed in accordance to the steps that Buckingham and Saunders (2004) offer in the creation of a beneficent tool.

→ Step 1: the main questions the research was aiming to answer were listed.
→ Step 2: the key concepts were listed which allowed the researcher to separate the various categories and themes contained in the research aim and objectives.
→ Step 3: the concepts were moved from their theoretical basis into a measurable one and thus the variables involved in the study were named. This allowed the researcher to gain clarity on how the key concepts were going to be operationalised and measured.
→ Step 4: the variables were examined so that the independent, dependent and mediating variables could be isolated.
→ Step 5: items to measure the variables were then designed and the questionnaire was constructed.

<u>Strengths of using a questionnaire</u> (Buckingham and Saunders, 2004; Fife-Schaw, 2000)

- It is one of the major tools of inquiries in the realm of research.
- It was an appropriate tool to have used with regards to the purpose of the study.
- It was a suitable instrument to use with sample one, as the unit of analysis was individual human beings (rather than organisations, families or a country).
- It allowed the researcher to summarise facts about a fairly large sample as it provided a great deal of information about participants such as: demographic information (age, gender, race) as well as their attitudes and activities.
- The 'breadth of coverage' was far larger than it would have been had one on one interview been the means of collection.
- The researcher was able to construct one that was specific to the study.
- It was a standardised instrument which was applied in the same way to all participants.

- It was relatively inexpensive to administer and as a self completed questionnaire it could be e mailed to participants recruited using snowball sampling.

The questionnaire was a measure that consisted of five sections:

- Section A = Demographic information.
- Section B = Personal Preferences (modified version of the Zuckerman *Sensation Seeking Scale Form V – SSS-V*): 15 items measuring sensation seeking.

Development of the scale

The SSS was initially developed in 1964 by Marvin Zuckerman as a measure of individual differences in levels of stimulation and arousal. In 1971 after further factor analysis Zuckerman, together with his colleagues identified four major elements that contribute to sensation seeking. These four factors became – and remain – the main subscales of the SSS. These include: thrill and adventure seeking (TAS); disinhibition (DIS); experience seeking (ES) and lastly boredom susceptibility (BS) .

Description of the scale

The SSS is a 40 item scale which comprises of 4 subscales as described above. TAS items express desire to engage in activities that involve some form of physical danger or risk, DIS items describe a need to engage in social behaviours which are considered dis-inhibitive, ES items explore the desire to seek out new experiences via the mind, senses and travel and by living a nonconformist lifestyle and lastly BS items investigate an aversion for repetitive experiences of any kind (Zuckerman, no date). As Stephenson, Hoyle, Palmgreen, & Slater (2003, p. 279) note, most measurements of Sensation Seeking are considerably lengthy "thereby reducing their chances of inclusion in some research projects". Due to the fact that the SSS was one of several tools used with sample one, a modified 15 item scale was employed so as to reduce questionnaire completion time for participants.

Relevance of scale

The SSS has been related to various personality traits, cognitive and perceptual styles and differing personal experiences (Zuckerman, no date). For example people who score high in sensation seeking display lower levels of tolerance for sensation deprivation. In other words

they are likely to seek out "varied, novel, complex and intense sensations and experiences and [they are likely to display] willingness to take physical, social, legal and financial risks for the sake of such experiences" (Zuckerman, 1994, p. 27). They are also more likely to use drugs, become involved in sexual experiences, to drink in public and to volunteer for high risk activities (Phil & Peterson as cited in *Self Assesment: The Sensation Seeking Scale)*.

Psychometric Properties and limitation of the scale

The 40 item SSS has a Cronbach Alpha of .87 indicating a sufficient measure of reliability (Carretero-Dios and Salinas, 2006). However it has to be acknowledged that the use of a modified 15 item scale severely compromised measures of validity and reliability as no standardised measures of these statistics exist for this 15 item version of the SSS. As such results were interpreted cautiously.

- Section C = The Barrat Impulsivity Scale: 30 items measuring impulsivity.

Development of the scale

2009 marked the 50th anniversary of the *Barrat Impulsivity Impulsiveness Scale* (BIS) (Stanford et al., 2009). Originally designed to help "relate anxiety and impulsivity to psychomotor efficiency" it was only later on that a "review of factor analytic studies of impulsiveness items …convinced Barrat that impulsiveness was not a uni-dimensional construct as he had originally conceptualised" (*History and Development of the BIS*, 2010). Hence the BIS was redesigned to include 3 sub-traits that make up impulsivity namely: cognitive impulsiveness; motor impulsiveness and non-planning impulsiveness.

Description of the scale

The BIS is a 30 item self report measure designed to assess the personality/behavioural construct of impulsivity (Stanford et al., 2009). After several factor analyses, The BIS was redesigned to measure impulsivity specifically rather than other action orientated traits such as sensation seeking, risk taking and extraversion. In order to produce a scale that was able to measure the specific attribute of impulsiveness, three sub-traits of impulsivity were included (*History and Development of the BIS*, 2010).

Within this three factor conceptualisation cognitive impulsiveness measures the tendency to make quick decisions, items measuring motor impulsiveness assess the tendency to act without thinking while items non-planning impulsiveness looks at the degree of thinking ahead or "futuring" (Stanford, 2009).

Relevance of scale

As a construct, "impulsivity is implicated in a number of psychiatric disorders including Mania, Personality Disorders, and Substance Use Disorders" (Stanford, 2009). It is a trait that is often considered as "counterproductive" by society and it is often linked to socially deviant behaviours such as aggression and substance related disorders (Stanford, 2009).

Psychometric Properties

The 30 item BIS has a Cronbach Alpha of .83 indicating a sufficient measure of reliability (Carretero-Dios and Salinas, 2006).

- Section D = Perception of Stress: 4 items measuring perception of stress.

Development of the scale

The Percieved Stress Scale (PSS) was designed by Sheldon Cohen to measure the degree to which situations in one's life are considered as stressful and "items were designed to tap into how unpredictable, uncontrollable and overloaded respondents find their lives" (Spacapan & Oskamp, 1998, p. 34). The three elements of predictability, control and overload have been found to be central elements of the experience of stress (Cohen, Kamarck & Mermelstein, 1983).

Description of the scale

The original scale consisted of 14 items however four item (PSS4) and ten item (PSS10) versions have also been designed and validated (Cohen, Kamarck & Mermelstein, 1983). Questions in the PSS investigate participants' feelings and thoughts over the last month with regards to their experience of stress. The PSS does not evaluate specific situations rather it assesses how frequently participants have felt a certain way and because the questions are of such a general nature they are context and content unbiased (Spacapan & Oskamp, 1998).

Relevance of scale

High PSS scores have been associated with behaviours such as failure to quit smoking and failure among diabetics to control blood sugar levels (Cohen, Kamarck & Mermelstein, 1983). Furthermore, higher PSS scores have also been associated with "greater vulnerability to stressful life-event-elicited depressive symptoms". It has also been used as an "outcome variable in relation to coping processes" (Cohen, Kamarck & Mermelstein, 1983, pg. 35).

Psychometric properties

The PSS14 has a Cronbach alpha co-efficient of 0.75 for internal reliability, the PSS10 has a Cronbach alpha co-efficient of 0.78 while the PSS4 has a Cronbach alpha co-efficient of 0.60. Hence all 3 versions of the scale demonstrate adequate internal reliability (Spacapan & Oskamp, 1998). While the PSS4 does reflect a loss of internal reliability its "factor structure and predicative validity were good" ($p < 0.5$) and it can be considered a useful measure of perceived stress when data must be collected quickly as a brief measure of stress (Cohen, Kamarck & Mermelstein, 1983; Spacapan & Oskamp, 1998).

- Section E = Questionnaire.

  The remainder of the questionnaire consisted of open and closed ended questions which examined participants' understanding of addiction, ways in which their addiction had manifested, factors which contribute to relapse as well as to the ability to remain clean and abstinent and their subjective experiences of craving.

Limitations of using a questionnaire

- Sections A and E of the questionnaire were self developed and consequently could not be normed or standardised. Nevertheless with inclusion of the BIS, SSS AND PSS the questionnaire appeared to have face and content validity. In addition to enhance the reliability of the instrument the questionnaire was piloted so as to ascertain how well the concept was being measured.
- A typical challenge when using questionnaires is that most people do not like writing long answers to open ended questions (Buckingham & Saunders, 2004), however fortunately in this case, the researcher was provided with many rich and extensively answered questions.

- It also often problematic when allowing participants to answer a questionnaire in their own time, to judge how seriously they took the inquiry (Buckingham & Saunders, 2004). Once again many participants went to great lengths (specifically in their answers to the last question) regarding time lines of their addiction and several people used flow charts and graphic representations to illustrate their histories.
- A further limitation relating to the use of a self completed questionnaire was that of the response rate. According to Buckingham and Saunders (2004), the response rate refers to the proportion of people who successfully completed a questionnaire. They propose three main reasons why non-responses occur namely:

a. Non contacts – this occurs when despite repeated attempts to contact a participant, they do not respond.
b. Refusals – this occurs when people decline to participate in a study.
c. Incomplete questionnaires – this occurs when a questionnaire is returned in but has not been completed.

In order to account for these, the researcher provided participants with a variety of options on how they could return their questionnaires. Every measure was taken to ensure that should a participant choose to volunteer for the research, they would not be inconvenienced in the return of the questionnaire. In addition, people were assured that should they refuse to participate in the research their decision would be respected and would in no way be held against them. In order to boost response rates, the researcher provided a participant information sheet which contained all the relevant information regarding the study and non-respondents were followed up on.

- While a commonly held belief exists that as long as one knows what one wants to ask and who one wants to ask it to, anyone can construct a survey instrument. However to truly produce a tool that generates credible and generalisable results, is a challenging undertaking (O'Leary, 2004). The questionnaire used in the research project was therefore constructed very cautiously taking aspects such as questionnaire construction, data analysis and relevant literature into account while it was constructed.
- A further limitation regarding the use of questionnaires is that of gathering correct information of past events. Often people's memories are not always accurate and problematic recall can be an issue. In addition, if the questionnaire contains questions on behaviour which is considered shameful or stigmatised, many people may be reluctant to

participate taking this into account the questionnaire was cautiously designed around these areas (Buckingham & Saunders, 2004).

- Questionnaires are heavily 'reactive' as participants are aware they are being studied. Hence they are able to manipulate information they provide and as such an obvious limitation with the questionnaire is that it was not possible to confirm the answers that willing participants supplied (Buckingham & Saunders, 2004).

5.2.3. Research instrument two: The semi-structured interview schedule

Interviews are very useful when one is trying to gather information that is difficult to come by and when one is trying to gain insight into people's personal feelings and experiences (Salkind, 2009). Salkind (2009) outlines that there are two formats for questioning in an interview namely structured and unstructured questions. Structured questions have a clear and apparent focus and call for a specific kind of answer while semi-structured questions on the other hand allow the person being interviewed to elaborate on their answers. As a result semi structured interviews are far less rigid than structured interviews and they flow like "guided conversations" (Noosen & Woody, 2008). A semi structured interview schedule was used on a one-on-one basis with participants from sample two (Please refer to Appendix B). With this kind of tool, the researcher was guided by a set of predetermined questions. Smith and Eatough (2007) point out that because the questions act as a guide rather than a strict sequence, the order of the questions is not of paramount importance. So while the researcher has an idea of what questions to pursue, he/she is also interested in understanding the experiences of the participant as much as is possible.

<u>Strengths of using a semi-structured interview</u> (Nosen & Woody, 2008; Wilkinson, Joffe, & Yardley, 2004)

- Questions were open-ended thus allowing participants the opportunity to elaborate on their answers and to pursue their own line of thinking.
- While questions were prepared prior to the interview, because they were open ended and broad, the researcher was afforded an opportunity to follow up on issues that arose and as such new questions could be added if needed.
- The format of the semi structured interview allowed for more personal assessment of which areas warranted further exploration.

- Information of an unclear and elusive nature could be crossed checked as the researcher was afforded the chance to clarify and probe responses.
- The unrestrained and expansive nature of the interview reveals information into how participants structure their answers to an issue and hence their responses reveal their personal responses and reactions to the topic.
- The same questions were asked to all participants allowing the researcher to compare across interviews.
- The open ended nature of questions allowed freedom of thinking and participants were given a space in which to talk naturally about the topic. This often exposes the complex and at times contradictory attitudes and beliefs of human thinking.
- Open ended questions (rather than set response options) also unveil the often hidden emotional motivators of the human mind as opposed to strictly rational thought.

Design of the semi structured interview schedule

Smith and Eatough (2007, p. 42) note that the participant should be viewed as a co-determinant of the interview process as he/she will be an "active agent on shaping how the interview goes", nevertheless it is important to produce an interview schedule in advance. The schedule was designed taking the following into consideration:

1. Preparing beforehand allowed the researcher to think explicitly about what the interview needed to cover, what possible challenges may have been encountered and how these could be handled.
2. Questions could be considered carefully with regards to wording and addressing sensitive issues.
3. Through the course of drafting questions, researcher bias and question loading could be minimised.
4. The questions were designed in accordance with the aim and objectives of the study. (This is evidenced by the table in Appendix C which illustrates the theoretical underpinnings of the semi structured interview schedule).

Limitations of using a semi-structured interview

- While one of the semi-structured interviews' greatest strengths is it flexible nature which allows the researcher to probe and explore areas the participants brings to his/her answers, it is precisely because of this that the reliability of the results is often weakened. Because the researcher can prod and delve into certain responses given and because rapport is developed between researcher and participant it is possible that answers that are given can be distorted and biased (Buckingham & Saunders 2004). In order to account for this, all interviews were recorded, transcribed and cross checked.
- One challenge of using interviews is that it can be a time consuming exercise as the researcher needs to be present for the full duration of the interview. In addition, interviews have to be transcribed and coded. However as Wilkinson, Joffe and Yardley note (2004) this challenge allowed the researcher to become fully immersed in the data and results and she was able to gain a profound familiarity with the themes and issues that were inherent in the topic of study.
- Another challenge associated with the semi structured interview is that of reliability. Because the formally structured interview is designed prior to the actual interview, the researcher predetermines what data is necessary for collection. Moreover, the researcher ideally should follow the questions in the schedule very closely with as little variation between interviews as possible. For these reasons it can be considered (to some degree) to possess higher reliability than the semi structured interview. Nevertheless, semi structured interviews are in fact guided by a set of questions (albeit in more flexible manner) and it afforded the researcher an opportunity to follow up on important and interesting points and issues that emerged in the interview process. In addition, it allowed the researcher to explore the meaning a person attached to and made of his/her experience (Smith & Eatough, 2007).

5.2.4. Issues of validity and reliability of instruments

Issues of reliability and validity are crucial elements of research methodology that should be seriously contemplated throughout all stages of the process as they will have a direct impact on: the extent to which something can be taken from the study; the probability that something of

statistical significance can be gained from the study and lastly the degree to which meaningful conclusions can be drawn from the study (Leedy & Ormrod, 2010).

5.2.4.1. Quantitative research

Reliability of measurement

In order to achieve reliability, instruments should be used which produce the same result from the same circumstances every time they are used (Buckingham & Saunders, 2004) which lessens the potential for random error (Leedy & Ormrod, 2010).

There are various methods researchers can use in order to maximise reliability of the quantitative data as outlined by Rubin and Babbie (2010) subsequently the researcher ensured that:

a. All participants received the same questionnaire with the same instructions.
b. Procedure was replicated with as little modification as possible.
c. Participants were asked questions that were relevant to them in a clear and rational manner so as to ensure they would be able to answer the questionnaire.
d. The instrument consisted of multiple scales which were scored and each of these scores was then assessed for correlations. This helped strengthen the internal consistency reliability of the instrument as each of the scales used had co-efficent alpha's (the most common and powerful method used currently to assess internal consistency).

It is always favourable that a measure be reliable (i.e. that it produces the same results over and over again in the same settings) but its presence does not ensure that a measure be valid (Leedy & Ormrod, 2010).

Validity of measurement

The validity of a measure refers to the accuracy with which it measures and expresses the phenomenon under investigation (Buckingham & Saunders, 2004). There are various manners in which validity can be measured. One such way is referred to as face validity – and concerns whether or not the instrument, on face value, measure what it is supposed to measuring. This is a crude estimation of validity and is a subjective assessment made on the part of the researcher (Leedy & Ormrod, 2010). For example, it was both sensible and plausible when measuring clean time to ask participants how long they had been abstinent for and when measuring professional's

views on multiple dependency to ask them if they believe the treatment of one addiction differs from another. This measurement of validity is not enough to account for true validity as it is an estimation of what appears to be present, hence the other measures of validity need to be considered. Another way in which to measure validity of a measure is that of content validity, namely does the instrument cover the range of dimensions that comprise a concept? For example, by including measurements on sensation seeking, impulsivity and perception of stress in addition to the descriptive personal attributes of participants (such as clean time, attendance of meetings, history of treatment etc.) all important aspects could be included that contribute to the concept of relapse.

Based on the above, the questionnaire appeared to have face and content validity. Furthermore, in order to account for these measures of validity the researcher piloted the instrument so as the ensure that all variables concerning the concept of relapse had been taken into account and to confirm that the questionnaire included in the questionnaire were relevant to the topic and the participants' experiences.

Validity of the study itself

While validity is a construct that is often used when speaking of measurements, it is also a factor when speaking of the study in general. Leedy and Ormrod (2010) note that there are two facets of validity that are important to consider when speaking of a study in broad terms specifically:

1. Internal validity – this speak to the credibility and accuracy if the research project and whether or not meaningful conclusions can be drawn from the data. In other words, did the study control for external variables so that the conclusions drawn from the study are in fact a reflection of the data?
2. External validity – this speaks to the extent to which results from the study can be generalised beyond the study. In other words, are the results from the study representative of a bigger picture?

In order to account for threats to internal and external validity the researcher took the following measures as suggested by Leedy and Ormrod (2010):

- A triangulated approach was used so that multiple sources of data could be used to confirm findings (internal validity).

- Participants were engaged in a 'real life setting' as opposed to a controlled laboratory which often yields results which are more broadly applicable to other 'real life contexts' (external validity).
- A representative sample was used in both sample one and sample two, however the small sample size involved in both make generalising of results difficult. As such this project makes no attempt to stretch the findings beyond its scope (external validity).

5.2.4.2. Qualitative research

The concepts of validity and reliability are usually typical of quantitative designs and consequently several authors (Creswell, 1998; Guba & Lincoln, 1988; Wolcott, 1994) have suggested that when speaking of these concepts from a qualitative framework, terms such as credibility, trustworthiness, confirmability, verification and transferability are more fitting. Leedy and Ormrod (2010) explain that several strategies can be employed in order to improve and increase the credibility of a study and its findings. The researcher employed the following of these strategies:

Firstly, the researcher has spent extensive time immersed in the field of addiction and dependency. She has spent the last three years studying, reading and learning about the topic and has worked diligently at expanding her knowledge base in this area.

Secondly, the use thick and rich descriptions allowed the researcher to produce findings so that readers are able to draw their own conclusions from the data. The use of high quality description with an understanding of the complexity of feelings, meanings and interpretations of both the researcher and the participants, is often referred to as rigour within a qualitative paradigm (Ezzy, 2002). Other aspects Gubrium and Holstein (as cited in Ezzy, 2002) describe as contributing to the interpretative model of rigour in qualitative research and which were apparent in this study were: close scrutiny (getting close to the world of the professionals being studied and observing and noticing the details of their experiences and interpretations); focus on process (understanding that social life is continuously constructed); appreciation of subjectivity (social life is subjective and thus cannot be understood without examining the subjective experiences of people); tolerance for complexity (simple explanations are not desirable, social life is comprised of a mixture of complex interactions and meaning that shape human action, behaviour and thought).

Thirdly, trustworthiness was taken into account. This often refers to the extent to which qualitative research findings are genuine, and the degree to which the interpretations of the data are credible (Padgett, 1998). Creswell (2002) notes that the 'validity' of a qualitative research study would encompass consistent patterns of theme development, which is observed by more than one member on the research team. The manners in which the trustworthiness of the study were accounted for included: a). receiving feedback from others which served to guard against researcher bias (Padgett, 1998; Padgett, Mathew, & Conte, 2004). Data analysis was consistently checked with the researcher's supervisor in order to guard against researcher subjectivity and b.) contrary information and topical controversial and hotly contested debates were presented so that the reader was presented with a credible account of the study from the perspective of the participants as well as from current literature.

5.2.5. Piloting of the research tools

According to Buckingham and Saunders (2004), even though a researcher may take every possible aspect of question design into consideration when devising a questionnaire or interview schedule, it is a near certainty that when it is actually administered a few errors will be present. They may be easily identifiable such as grammatical in correction or spelling mistakes or quite undetectable such as ambiguous statements, unclear instruction or question misinterpretation (Buckingham & Saunders, 2004). Hence it is advisable to conduct a pilot study so that these errors can be identified and rectified prior to beginning the actual fieldwork (Boynton, 2005) and consequently piloting a research instrument is often referred to as the "cardinal rule of research" (De Vos et al., 2005, p. 316).

5.2.5.1 Research tool one: The self-developed questionnaire

Using purposive selection, four individuals recovering from various forms of addiction were contacted and given details concerning the study. It was explained that it was necessary to pilot the questionnaire prior to commencing the study so as to ensure that all items and questions contained in the tool were clearly understandable. They were invited to participate in the pilot study and all four agreed. The sample for the pilot study thus consisted of: two females (one recovering from compulsive overeating and the other from drug addiction and compulsive overeating) and two males (one recovering from drug addiction and sex addiction and the other from drug addiction and

gambling). When the sample gathered for the pilot, it was explained that they would be excluded from participating in the main study. The tool was administered in order to make sure that it was clear, understandable and whether any items needed to be modified, included or deleted.

Feedback from the pilot sample indicated that all items in the questionnaire were straight forward and clear. The two suggestions made by the pilot sample (which were included in the final draft of the instrument) were:

a. If participants answered yes to question 1, a follow up should be included inquiring as to whether the participant is in primary or secondary care.
b. Excessive exercise should be included in the list of addictive behaviours.

5.2.5.2. Research tool two: The semi-structured interview schedule

Two professionals working the field of addiction, at a treatment centre that was not involved in the study, were purposively selected and contacted. The nature of the research was explained to them as was the function of piloting the interview schedule. Both agreed to participate in the pilot. Feedback from the professional pilot sample indicated that the questions were appropriate and thought provoking and the length of time required to administer the interview was found to be acceptable. Suggestions were given to include the following questions into the schedule (which was done):

a. What drew you to this field?
b. What do you do for self care and self maintenance?
c. What do you screen for in an assessment?
d. How many of your staff members are in their own process of recovery?
e. Are your staff members encouraged to practice a clean and sober lifestyle?
f. Do you think treatment centres work with issues and problems that they are not always equipped to deal with?

5.3. RESEARCH PROCEDURE

Because the study consisted of two samples, the procedure differed for each and as such both will be detailed below.

5.3.1. Sample one

- Various 12-Step fellowships operating in Gauteng, South Africa were contacted in order to ascertain what logistics were involved in conducting research with their members. This was to ensure that the correct protocol was followed so that permission could be granted which would grant the researcher access to members so that they could be invited to participate in the study.
- Once ethics clearance along with permission to proceed from graduate school was granted (Please see Appendix D), the questionnaire was piloted with four individuals recovering from a range of addictive and compulsive behaviours. This was to ensure that a pilot sample that was representative of what the study sample was intended to comprise of, could be mimicked. They completed the questionnaire and provided the researcher with positive feedback on the clarity of questions, extent of the topic covered and 'user-friendliness' of the format. Two suggestions were offered and made to the tool (as outlined above).
- In order to gather a sample, two routes were followed:

  A. <u>Attending meetings</u>

    - Twelve 12-Step fellowships were attended averaging ten to thirty members per meeting. Of the twelve meetings, seven were NA meetings, three were OA meetings and two were GA meetings. All meetings were attended in order to invite members to participate in the project.
    - At every meeting, the researcher approached the chairperson of the meeting in order to introduce herself, explain the nature of her visit and to clarify that the necessary permission had been granted to attend the meeting (Please see Appendix E). Due to the fact the each fellowship operates under a set of guidelines (referred to as the 12 traditions), the researcher followed the protocol that had been prescribed by the representatives when they were initially contacted (prior to gaining ethics clearance).
    - At NA meetings, the researcher could approach members either in the coffee break or once the meeting had concluded and could invite them to participate. At both OA and GA the researcher was given a few minutes to address the group, to explain the nature of the research and to invite members to participate in the research. In both cases, it was explained that the research was completely voluntary and a member's decision not to participate would be respected.

- If a member was interested in the research and volunteered to participate in the research, they were given: a participant information sheet (Please see Appendix F), a questionnaire and a list with all 12-Step fellowships' contact details.
- The questionnaire took in the region of forty five minutes to complete and this was stated on the information sheet. Consequently participants were reluctant to complete the form on site. As a result a number of options had to be supplied (Please see Appendix G). Option A – to complete on site and return immediately. Option B – to complete at home and return via fax or e-mail. Option C – to complete at home and return via post. Option D – to complete at home and contact the researcher who would personally collect.
- If participants chose option A, a box with a slit was provided for participants to return their questionnaires in so as to protect their anonymity. If participants chose option B it was explained that their confidentiality could not be protected as identifying details such as their e-mail addresses and/ or company names or numbers would be visible. However it was explained that once received, their questionnaires would not be perused but would immediately be added to the box with the anonymous questionnaires. If participants chose option B or C, contact details were supplied at the end of the questionnaire.
- Participants wanting feedback and follow up of the study were instructed that it would be made available on request – on the information sheet – only one participant supplied an e mail address requesting this.

B. <u>Telephonic/e-mail invitation</u>

- Due to the fact that AA had denied the researcher permission to attend meetings and because SAA and SMA had expired once the study began, members from these fellowships had to be recruited using snowball sampling.
- The researcher made certain to explain to members from NA, GA and OA meetings that should they know anyone who would fit the criteria for inclusion, they would need to gain their permission prior to supplying the researcher with contact details.
- If this was adhered to, the researcher contacted members she was referred to. First and foremost she confirmed that they had consented to be contacted (all confirmed this). She then explained the nature of the research and explained

that participation was completely voluntary and a decision not to participate would be respected.

- If they agreed to participate, the researcher asked how they would like to obtain the questionnaire as she was willing to either make a time to meet so that it could be delivered or she was able to e-mail and electronic copy of the questionnaire. All preferred electronic communication.
- They received an exact replica of the questionnaire but in electronic format. They were therefore also given the four options in terms of returning their completed questionnaires.

Of all the participants, a total of three completed the questionnaire on site, one returned via post and the remaining chose email or fax. The data collected was scored (Please see Appendix H), coded and analysed using descriptive and inferential statistics.

5.3.2. Sample two

- Seven treatment centres granted permission for the researcher to contact staff members so as to invite them to participate in the study (Please see Appendix I).
- Once the study commenced, staff members working at these centres were contacted.
- The nature of the research was explained, as was the fact that participation was voluntary and a decision not to participate would be respected after which they were invited to participate in the study.
- If a staff member volunteered to participate, the researcher scheduled a time that was convenient for the participant in order to be interviewed.
- Interviews were held at a variety of venues namely the treatment centres themselves which were situation in a variety of areas in Johannesburg (e.g. Benoni, Glenferness, Ferndale, Sandown, Sophia Town).
- At the interview, the participant was given a participant information sheet (Please see Appendix J), an informed consent form (Please see Appendix K) and a consent to audiotape form (Please see Appendix L).
- All participants were asked the same questions contained in the semi-structured interview schedule.
- Interviews were transcribed and analysed in order to indentify themes.

Data from both samples were presented in the form of graphs, tables and quotes and the study was presented in a Masters research report.

6. DATA ANALYSIS

6.1. QUANTITATIVE DATA

6.1.1. Scoring

Quantitative data collected from the three scales used in the questionnaires (Sections B, C and D) were scored using scoring guides.

Sensation Seeking Score: items which indicated sensation seeking responses were given a score of 1, while items which did not indicate sensation seeking were scored 0. The items were then tallied in order to achieve a total score. The score obtained was then categorised as: low sensation seeking (0-5), moderate sensation seeking (6-10) or high sensation seeking (11 – 15). Hence the higher the score, the higher the level of sensation seeking.

Impulsivity Score: the Barrat Impulsivity Scale (BIS) consists of 6 first order factors and 3 second order factors. A total score was obtained by summing the second order factors. A 7 point scale was employed namely: Never = 1; Almost never = 2; Occasionally = 3; Fairly often = 4; Often = 5; Almost always = 6 Always = 7 and items 1,7,8,9,10,12,13,15,20,29 and 30 were reversed scored. The total score was then categorised as: low impulsivity (0-70), moderate impulsivity (71 – 140) or high impulsivity (141 – 210). Hence, the higher the score, the higher the level of impulsivity.

Perceived Stress Scale: consisted of 4 items. A 7 point scale was employed namely: Never = 1; Almost never = 2; Occasionally = 3; Fairly often = 4; Often = 5; Almost always = 6 Always = 7 and items 2 and 3 were reversed scored. The total score was then categorised as: low perception of stress (0 – 9), moderate perception of stress (10 – 18) or high perception of stress (19 – 28). Hence, the higher the score, the higher the perception of stress.

6.1.2. Statistical methods used

Descriptive statistics

Initially, data from the questionnaires were analysed using descriptive statistics. According to Rosnow and Rosenthal (1996), descriptive statistics are useful for visualising and summarising data as they help reveal underlying patterns. Hardy (2004) highlights the fact that descriptive statistics are highly useful in identifying four features of data namely: the response that is most typically observed, the extent to which responses differ, the concentration of responses in relation to the most observed response and lastly the extent to which responses are concentrated around the most likely response. Insights gained from these four features provide a clear picture of the entire collection of data and provide guidance for further analysis. Furthermore, descriptive statistics assist with the simplification of large amounts of data into a more sensible format or summary and as a result data was presented in the form of tables and graphs (Trochim, 2006).

Inferential Statistics

Once the data had been organised descriptively the question still remained: do personal variables, sensation seeking, impulsivity and perceived stress impact on relapse the ability to remain abstinent? Subsequently inferential statistics were used in order to:

A. Deduce something about the way in which the identified variables impact on relapse
B. Infer from the sample to the population the study was interested in (in other words could the results from the sample be generalised to the broader population).

A. Deducing something about the way in which understanding addiction as a disease impacts on attitude.

In order to deduce something about the way in which the identified variables (i.e. understanding of addiction, attendance of meetings, current use of substances/behaviours; sensation seeking, impulsivity, perceived stress) impacted on relapse and the ability to remain abstinent, Fischer's exact test was used as the method of choice in the statistical analysis. According to Siegal (1956, p. 96) the Fischer Exact Test is a useful manner in which to examine data when two independent

samples are small in size and is usually employed when the responses from two samples falls "into one or the other of two mutually exclusive categories". Daniel (1978, p. 110) re-iterates this as he notes that the Fischer Exact test is helpful when respondents are classified as "either possessing or not possessing some characteristic" (in this case having relapsed or not). The main aim of the Fischer Exact Test is to extrapolate whether the two groups differ based on their classification (Daniel, 1978). Unfortunately, even though the Fischer Exact Test is most commonly used with samples that are exceptionally small (Daniel, 1978), the entire data analysis of sample one was limited by the division of the sample of users into those who had never relapsed (n=18) and those who had relapsed (n=60) as the distribution of the two groups was heavily uneven.

In order to run accurate and appropriate statistical analysis, a qualified statistician was employed as was the use of Statistical Analysis Software (SAS).

B. Inferring from the sample to the population the study was interested in.

The process of inference is based on the results of statistical tests. One of the most popular ways in which to infer from a smaller sample to a larger population is with statistical significance (Salkind, 2009). As such, the 'p' value was examined in all statistical analyses in order to ascertain if any statistical difference was notable between those who had relapsed and those who had not.

6.1.3. Limitations of quantitative data analysis

- The biggest challenge with the process of using inferential statistics is that of sampling error which points to the possibility that the sample upon which a general conclusion was made, does not represent an accurate picture of the population (Gravetter & Forzano, 2003). As a result there may be inconsistencies between the results from the sample and the realities of the population (ibid). In order to reduce the extent of sampling error, the research aimed to gather samples from many of the subgroups within the same population (i.e. participants with various forms of addictions/compulsions). Unfortunately not enough participants volunteered and as such each sub-sample did not consist of enough individuals with their own scores and characteristics.
- A further question the researcher needed to consider when using inferential statistics was: are research results indicative of the variables under investigation or are they a result of

sampling error? In the case of this research, the researcher needed to consider to what degree the results were indicative of how the variables under investigation (such as impulsivity, multiple dependencies, risk, sensation seeking etc) impacts on peoples' ability to remain sober/abstinent or whether the results are the product of chance due to the composition of the sample itself (Gravetter & Forzano, 2003).

6.2. QUALITATIVE DATA

6.2.1. Thematic Content Analysis

Qualitative data extracted from the interviews was analysed using thematic content analysis. According to Banister, Burman, Parker, Taylor and Tindall (2006, p. 57) a thematic analysis is "a coherent way of organising ...interview material in relation to specific research questions". Data are organised under specific headings and themes that relate to the research questions.

Terre Blanche, Durrheim and Kelly (2006, p. 321) consider thematic content analysis as one form of interpretive data analysis. Interpretive analysis involves "thick" description of the phenomenon being studied as it explores the various "characteristics, processes, transactions and contexts" of the phenomenon.

Thematic content analysis is perhaps the most popular approach to content analysis and the coding system is based on the extrapolation of specific themes present in the text (Padgett, 1998). The researcher followed several steps suggested by Storey (2007) (which are outlined below) in order to ensure that the process was done in a logical, coherent and sound manner.

- → Step one: Reading and re-reading of the interview transcripts – this was done in order to gain a sense of familiarity with the interviews and it allowed for the identification of general themes. Throughout this process, the researcher recorded notes in a note book. Powerful descriptions, inconsistencies and fragmented data were recorded for follow up.
- → Step two: Identification and labelling of themes – this stage involved a return to the transcripts using the notes that had been made to produce themes. Theoretical concepts were also incorporated always ensuring that there was a transparent connection between

the themes and the data. The use of theory arose from the data which added an element of credibility to the analysis.

→ Step three: Linking themes – during this stage, connections were made between themes and where appropriate they were married together.

→ Step four: presentation of analysis – once the main themes had been identified, they were written up and illustrated with the use of quotations from the interviews.

6.2.2. Reflexivity

A further element involved in interpretative analysis of data includes accounts of how the researcher experienced the process and accounts of his/her role in constructing the description. As a result the analysis of the qualitative data included an element of reflexivity on the part of the researcher as it allows the researcher to acknowledge the beliefs, values and attitudes she brought to the interpretation of data (Rossman & Rallis, 2003).

6.2.3. Limitations of qualitative data analysis

- Interpreting qualitative information can be a highly loaded subjective experience as there is no rigid and solitary way in which to extrapolate the meaning of the data. As a result qualitative analysis runs the risk of reflecting researcher bias (O'Leary, 2004). Consequently, bearing this in mind, the researcher utilised constant comparative analysis so that as themes emerged from the data the researcher returned to the raw data so as to ensure that all emerging information was congruent with the themes (Padgett, 1998). Furthermore, by adopting a critical and reflexive stance, the researcher aimed to identify any possible sources of researcher bias (O'Leary, 2004).

The researcher was primarily responsible for the collection and analysis of all data. Consequently, the possibility exists that the research may not be truly objective since researcher bias may have influenced the results. However in order to reduce the risk of subjectivity – and thereby enhance the reliability and validity of the study – the same questionnaire was given to all participants and the same questions were posed to all members of sample two. In addition the categorization of themes in the data analysis was checked by the researcher's supervisor through correspondence checking.

7. ETHICAL CONSIDERATIONS

In order for research to be considered as ethical, the welfare and rights of research participants are first and foremost protected, regardless of the needs of the researcher (Peat, Mellis, Williams, & Xuan, 2002). As such various ethical 'hot-spots' need to be carefully considered so as to ensure that the participants' best interest is guarded. In order to guarantee that this research project was conducted as ethically as possible, the following measures were taken:

- **Adhering to a code of ethics:** the study adhered to the University's Research Committee's ethics code for non-medical human subject research.
- **Standardization and equality:** each participant in sample one was given a participant information sheet and a questionnaire while each participant in sample two was given a participant information sheet, consent form and a consent to audiotape form and was asked the same questions guided by the interview schedule.
- **Possible emotional harm and the ethic of non-maleficence:** all the participating 12 step fellowships granted permission to use their 24 helpline/contact person number on the participant information sheet, hence the telephone numbers for all the fellowships at which meetings were attended were listed on at the end of the questionnaire. This measure was taken in the event that the questionnaire caused any participant emotional or psychological distress.
- **Anonymity:** the questionnaires were anonymous and no identifying information was required from participants so as to protect the participants' right to privacy. Furthermore a box with a slit was provided for participants to return their questionnaires so as to further ensure anonymity. If participants chose to complete their questionnaire electronically, they were informed prior in the participant information sheet that anonymity could not be protected.
- **Confidentiality and privacy:** participants from sample one who chose to complete their questionnaires electronically were assured that all information gathered from their responses would be kept in the strictest confidence so as to protect their privacy. While the interviews gathered in sample two could not be anonymous as they were face-to-face interviews, participants were assured that their identities would be kept confidential and no identifying information would be reported in the study. Participants from sample two were

also informed that the raw data would be protected for the required amount of time and then destroyed.

- **The right to self-determination and autonomy:** people wishing to participate in the study had the right not to answer any items they felt uncomfortable with and they had the right to withdraw from the study at any point without incurring any negative consequences. People could decline to participate in the study – with no negative consequences – so as to protect their right to self determination and autonomy.
- **Informed consent:** participants in sample two were provided with an informed consent form and a consent to audiotape form which ensured that they were informed and fully aware of the nature of the study. This enshrines the ethic of transparency and veracity and avoided any ethical issues of deception. By obtaining consent from participants in sample two, it indicated that participation in the study was voluntary and did not involve any form of coercion. In addition by signing both consent forms participants indicated that they were fully aware of their rights and responsibilities during the study.
- **Competence:** the research design was contemplated and carefully considered at all levels of the study so as to ensure the best possible outcomes and to reduce the potential for risk.
- **The role of the researcher:** the researcher only reported findings and results which were authentic and accurate of the study. Furthermore the research was guided and checked by a supervisor so as to ensure high levels of transparency.
- **Follow up and dissemination of information:** the researcher kept a file with requests for follow up from participants who wished to receive feedback. An abstract will be made available to any participant interested in the results of the research so as to keep participants informed about the outcome of the study.

8. CONCLUSION

This chapter outlined the research project from the selection of participants up until the final analysis of the data collected. A triangulated approach that included both quantitative and qualitative aspects was chosen in order to obtain a broader perspective on the topic. Strengths, limitations and ethical considerations were accounted for so as to indicate that they were considered, contemplated and addressed as much as possible.

CHAPTER 6

RESULTS

1. INTRODUCTION

This chapter begins by presenting demographic information for both sample groups that participated in the study. It will then proceed to outline the results and findings obtained as they relate to the five objectives that guided the project. By illustrating the data with the use of tables, graphs, illustrative quotes and inferential statistics, it is hoped that the reader will have a clear understanding of how the data obtained served to answer the questions underpinning the research.

2. DEMOGRAPHIC INFORMATION

2.1. Demographic information of Sample One: Service Users (i.e. participants with addictions and/compulsions)

2.1.1 Gender in relation to race of participants

Seventy eight participants (N=78)[1] participated in the study by completing the self-developed questionnaire on addiction. Forty three participants identified themselves as male, while thirty four identified themselves as female. One participant declined to identify his/her sex. Of the forty three males, thirty six identified their racial classification as 'White', three as 'Black', three as 'Coloured' and one as 'Indian'. Of the thirty four females, thirty two identified their racial classification as 'White', one as 'Indian' and one declined to identify her race (this is displayed graphically in Figure 3 on the following page). It is quite possible that despite the fact that South Africa is renowned for being the 'rainbow nation' comprising of a multitude of races and ethnicities, the sample was heavily representative of individuals who identified their racial category as 'White' due to the fact that the majority of meetings that were attended were in the northern suburbs which are heavily

[1] 'N' refers to all participants comprising the sample (i.e. N=78 for sample one and N=20 for sample two). Where 'n' is used, the entire sample did not participate and thus it is used to indicate how many participants of the sample did take part in a particular question.

populated by this demographic of people. It is also interesting to note that participants who forwarded on their peers' contact details for snowball sampling were of the same racial category possibly indicating that despite the changes that have taken place in South Africa's political landscape, people still socialise with individuals who are of the same racial category as them. If analysed from within a reflexive position, one more possibility exists for the noted differences in the various racial categories. As the researcher herself identifies her racial category as 'White' it is possible that the researcher's race itself impacted on which participants volunteered to participate in the research.

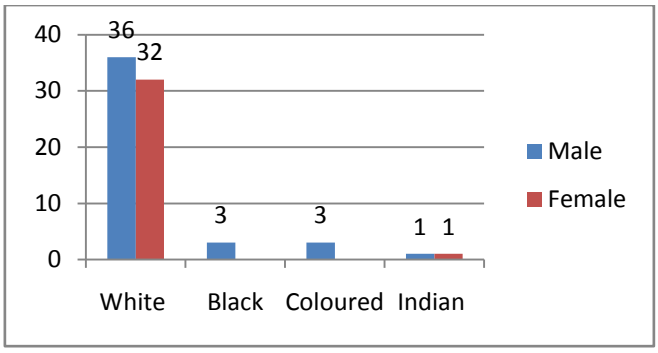

Figure 3: Gender and racial category of participants in sample one (n = 77)

2.1.2. The mode age group

Across all addictions, the most frequent age group was that of thirty six to forty as twenty one participants identified their ages as falling into that category, this was followed equally by the age groups of thirty one to thirty five and forty one to forty five as each category had thirteen participants (the line graph below in figure 4 clearly illustrates this). Ages within sample one (N=78) ranged from twenty one to sixty one with a mean age of 39.57 and a mode age of thirty two (n=6).

While mean ages for users of the main drugs of abuse in Gauteng have been proposed as ranging from thirty eight for alcohol; twenty nine for cocaine; twenty five for heroin, twenty one for marijuana (SACENDU, 2010), and with an overall mean age for all substances at thirty two, sample one was not only reflective of substance abusers. In its entirety, sample one (N = 78) was comprised of both substance-based recovering addicts and behaviour-based recovering addicts and it is therefore credible that this accounts for the mode age group of thirty six to forty as 'alcohol', 'gambling', 'sex addiction' and 'drugs and other' as specific dependency's were characterised by a

slightly older mean age. These differences in age and gender were noted for the primary addiction(s) for which help was sought (Table 6) and as such primary reason for treatment will be discussed next.

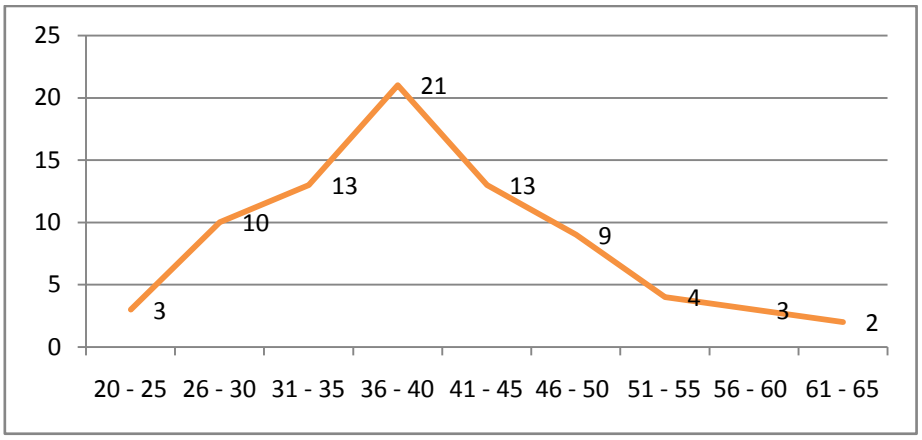

Figure 4: Age distribution of participants in sample one for all addictions (N=78)

2.1.3. Initial reason for treatment

Of the seventy eight participants from sample one, fifty participants cited a sole 'addiction' as their presenting problem when they initially sought help: nineteen cited drugs as the problem, twelve cited alcohol, twelve cited gambling, five cited eating disorders/food addiction and two cited sex as the issue. The remaining twenty eight participants either identified two or more addictions as their initial reason for seeking treatment, thus highlighting the co-occurrence of multiple dependencies in addicted persons. The results are represented in Table 6.

Table 6: Gender and age by addiction for participants, sample one (N = 78)

Addiction	Participants	Gender	Mode Age	Mean Age
Drug(s)	n = 19	F = 7 M = 12	36 – 40 (n=6)	35.84 (n = 19)
Alcohol	n = 12	F = 8 M = 4	36 – 40 (n=5)	42.5 (n = 12)
Drug and alcohol	n = 24	F = 8 M = 16	31 – 35 (n=6) 36 – 40 (n=6)	37.6 (n = 24)
Gambling	n = 12	F = 4 M = 7 (1 participant declined to identify)	41 – 45 (n=3)	45.1 (n = 12)
Eating disorders/food addictions	n = 5	F = 5	31 – 35 (n=2) 36 – 40 (n=2)	37.6 (n = 5)
Sex addiction	n = 2	M = 2	41 – 45 (n=1) 61 – 65 (n=1)	53 (n = 2)
Drugs and: Sex Alcohol and sex Self mutilation Self mutilation and eating disorder	 n = 1 n = 1 n = 1 n = 1	 M = 1 M = 1 F = 1 F = 1	 46 – 50 (n=1) 51 – 55 (n=1) 26 – 30 (n=1) 26 – 30 (n=1)	 47 55 28 27

Drugs or alcohol as the primary reason for treatment

According to the most recent SACENDU brief (Vol 13, 2, 2010), alcohol remains the most common problem for which help is sought at treatment centres in Gauteng. This was reflected in the data as thirty six participants cited alcohol as their primary reason for treatment. Furthermore, the mean age of patients seeking help for alcohol is usually substantially older than the mean age of other drugs (SACENDU, 2010) which was also evident in the data. (This could be accounted for by recognising that periods of 'experimentation' are typically characterised by drug use). Following alcohol, marijuana, heroin and cocaine continue to occupy the categories of most popular drugs of abuse (SACENDU, 2010). Of the nineteen participants who reported that they sought help for drugs, the single most commonly abused drugs were: heroin (n = 4); cocaine (n = 4); crack cocaine (n =2); crystal meth (n = 1); mandrax (n = 1) followed by a combinations of several drugs such as crack cocaine and cocaine (n = 3) and cocaine, marijuana and mandrax (n = 1) and cocaine, crack cocaine and cat (n = 1). Use of a single drug (specifically cocaine) was higher amongst female participants while polyuse was higher amongst male participants. The significant lack of marijuana citation can be attributed to the fact that the average user tends to be around the age of twenty one (SACENDU, 2010) and the majority of sample one were between the ages of thirty one and forty five (n=47).

Drugs and alcohol as the primary reason for treatment

Of the eight female participants who stated that drugs and alcohol were the reason they sought help, seven reported that alcohol together with cocaine was the drug of choice (the other woman reported it was a combination of alcohol and over the counter prescription medication). Of the remaining sixteen males, four cited the same combination (i.e. alcohol and cocaine); four cited alcohol and marijuana as their problem while the remaining eight cited a range of drug cocktails and combinations e.g. alcohol, crack and cat; alcohol, cocaine and heroin.

Gambling as the primary reason for treatment

It was within this specific addiction category that the mean age for participants was significantly higher. One way in which to possibly understand this is by drawing on a phenomenon known as 'lifestyle diseases'. According to Van Gool, Kempen, Penninx, Deeg, and Van Eijk (2007) unhealthy lifestyles such as "smoking, excessive alcohol use and a lack of physical activity" together with "consumption of an unhealthy diet" (Steyn, 2006, p. 1) often create and or/ exacerbate other chronic illnesses such as heart disease, cancer and emphysema. Furthermore these lifestyle diseases increase as does civilisations growth, industrialisation, urbanisation and globalisation (Steyn, 2006). Similarly, it may be that the mode age group of recovering gamblers that participated in this study was reflective of a period of lifestyle that affords one sufficient financial income so that gambling is possible and as such this result speaks to lifestyle and the problems that result from a particular way of life.

Eating disorders/Food addictions as the primary reason for treatment

All five participants who identified food addiction as the primary reason for help were female. This is not unexpected since the majority of individuals affected by eating disorders are women (Spillane, Boerner, Anderson, & Smith, 2004). Interestingly however, two participants who identified themselves as male and who did not identify food addiction or eating disorders as the reason they sought help (one cited alcohol as his primary reason and one cited gambling as his primary reason) reported experiences of bulimia and/or anorexia. This suggests that while eating disorders continue to be experienced by predominately female individuals, the phenomenon of

male eating disorders does exist albeit in very few cases (Stoving, Andries, Brixen, Bilenberg, & Horder, 2001).

Sex addiction as the primary reason for treatment

Sexual addiction – although a prevalent addiction – is frequently a taboo topic as individuals with sexual addiction often find it shameful and embarrassing (Ducharme, 2005) and as a result endure suffering under a veil of secrecy. As touched on in the above category of gambling, sexual addiction has also progressed to reflect today's times and according to Ducharme (2005) current manifestations of the addiction have come to include use of the internet (cyber sex) as it allows people to engage in chat rooms and on live web cams (*Alcoholism & Drug Abuse Weekly*, 2008). Carnes – when discussing the effects of the internet on the incidence of sex addiction – commented that "cyber sex is the crack cocaine of sex addiction" (as cited in Alcoholism & Drug Abuse Weekly, 2008, p.4). As the sample only consisted of two participants who identified sexual addiction as either the sole reason for treatment or as a co-occurring addiction it is possible that this is precisely representative of the under-reporting of this addiction. In addition, the difficulties the researcher experienced in accessing this particular sub-group were due to the stigma and sensitive nature of SAA meetings which clearly highlights that this addiction is often protected and safeguarded.

2.2. Demographic information of Sample Two: Service Providers (i.e. professionals working with addiction)

Twenty willing participants who met the criterion for inclusion in the study were interviewed regarding their experiences practicing in the field of addiction. Their information is tabulated below.

Table 7: Demographic Information of sample two (N=20)

Number of participants	Age	Race	Gender	Experience (in years)
N = 20	**25 – 30** n=4 **31 – 35** n=2 **36 – 40** n=3 **41 – 45** n=5 **46 – 50** n=3 **51 – 55** n=2 **56 – 60** n=1	**White** n=16 **Black** n=3 **Indian** n=1	**Male** n=4 **Female** n=16	**Under 1** n=1 **1 – 5** n=7 **6 – 10** n=5 **11 – 15** n=4 **16 – 20** n=3

A number of participants from a variety of treatment facilities were invited to participate in the study. Ultimately the sample consisted of nine social workers, one counselling psychologist, one occupational therapist and addiction counsellor and nine addiction counsellors (Figure 5).

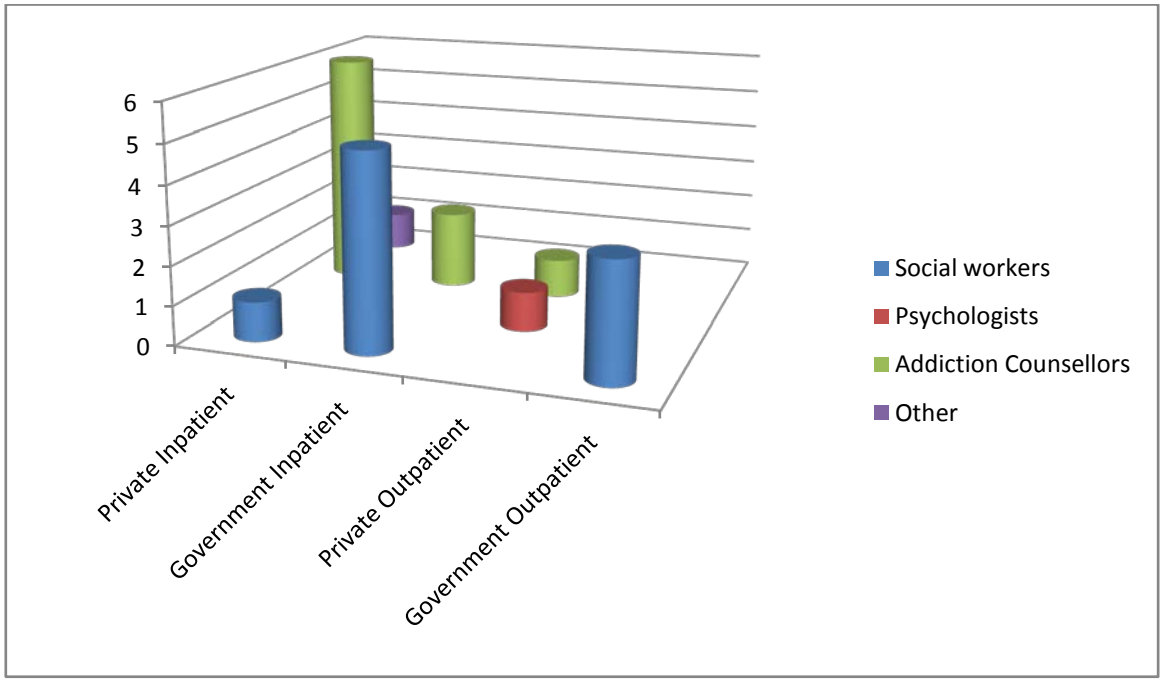

Figure 5: Treatment facilities and therapeutic staff (N=20)

The above result visually highlights that there is a significant difference in terms of therapeutic staff employed at private and government facilities. With regards to private facilities, far more addiction counsellors are utilised which may speak to use of the Minnesota Model of treatment within these settings (n=7). And while the value of utilising non-professionals with personal experience of addiction is clearly beneficial as a treatment model, one has to wonder what other implications are inherent in using non-professionals with a very precarious population – namely individuals seeking

recovery from addiction. In addition, what - if any - formal, tertiary training and education do these private centres require from their 'addiction counsellors'. While many of these participants (n = 7) did explain that they were required to do a certain number of practical hours, and that they have done courses such as lifeline and various other counselling and trauma courses, the question of whether or not these people are adequately trained, theoretically informed and ethically motivated to work in this kind of setting is an area of interest that has received much attention in the addiction field as the "lack of agreement on professional credentials" is a "unique ethical issue" within the addiction field (Scott, 2000, p. 211). While many of the addiction counsellors may have firsthand knowledge of what it is like to live with - and recover from - the horrors of an addiction, their lack of formal qualification within the mental health care setting and their subsequent lack of registration with any professional boards which serve to protect the rights of clients, opens up a multitude of ethical dilemmas as they are in effect unaccountable for any professional misconduct or ethical violations.

It may be precisely because of this that government facilities ensure they only employ professionals as was illustrated in the data, as government facilities use a majority of formally, tertiary educated therapeutic staff (n=8) which appeared to be dominated by social workers. Whilst the predominant use of professionals ensures that protocol is followed and that client's rights are protected an over reliance on formally trained professionals precludes the use of non-professionals (as embraced by the Minnesota Model) which could serve to supplement the treatment approach within government facilities and which would allow clients to connect with another person who has 'been there'.

It is necessary to note at this stage, taking a reflexive stance into account, that the issue of 'qualification and training' could have had an impact on the research process and data collection with participants from sample two. The addiction field –across the world – appears to consist of two polarised camps namely: the tertiary trained and the non-tertiary trained (who are mainly recovering addicts) (Scott, 2000). As such, the researcher herself (a young social worker completing a Masters Degree) was representative of the 'tertiary trained' and as a result of this participants from the 'other side' may have been affected. Whilst the researcher cannot assume to know in any certainty in which ways participants may have been affected, it is possible that they could have felt intimidated and/insecure which affected their levels of anxiety and nervousness as well as their responses to questions. Additionally, it is also possible that because of her young age, older tertiary

trained professionals, may have felt 'out of the loop' with regards to the latest trends within the addiction field as the research topic is reflective of one of the fields most current 'hot' topics.

Perhaps better balance is needed within both treatment setting which sees the use of the Minnesota Model with properly trained professionals and mental health care providers. However while this may be a practical suggestion and an ideal to work towards, there is currently no formal training course in addiction in South Africa. While many overseas countries have specific boards that regulate certification, registration and practice within addiction settings (for example NAADAC) there is currently no such board in South Africa, and despite the fact that there has been discussion about substance abuse practice becoming a specialised field of practice recognised by the South African Council for Social Services Profession (SACSSP) it will only cater for the academically trained professionals. Training and specialised education for the non-professional therapeutic staff is an issue that appears to be consistently ignored. This was highlighted by several participants in sample two (n = 8) as they cited that issues such as accountability, training and the creation of a formal board to oversee addiction practices were challenges facing treatment centres.

3. RESULTS AS THEY RELATE TO THE OBJECTIVES OF THE STUDY

3.1. Objective 1: To explore how service users understood addiction and to establish if variations of understanding about addiction existed.

Theme 1: Various understandings of addiction

The manner in which drug addiction has been understood has undergone several intellectual transformations throughout history. For centuries, drug addiction was seen as a character defect that could be treated with incarceration and punishment as drug addicts were seen as social degenerates who lacked will power (Committee on Opportunities in Drug Abuse Research, 1996). However, explanations accounting for addiction slowly moved away from this strong moral viewpoint and by the late 19th Century the disease model - as an approach to addiction - emerged. At its theoretical base, the disease model purports that addiction is a chronic, relapsing disease (Leshner, 1997). The addict is characterized as having a complete lack of control over his/her drug use - regardless of what drug is used - and continued use of the drug causes changes to the central nervous system that lead to tolerance, physical dependence, craving and relapse (Cami & Farre,

2003). The disease concept in drug and alcohol addiction has evolved over the past two hundred years in the changing contexts of clinical medicine, public health and psychiatry (Meyer, 1996) and currently groundbreaking scientific research has resulted in yet another reconceptualisation of the illness: a disease of the brain (Volkow, as cited in "The Science of Addiction: Drugs, brains and behavior", 2007).

As it was highlighted in Chapter Two, various explanations of addiction exist which are indicative of the nature/nurture debate, addiction as the result of poor emotional regulation, lack of willpower and a moral defect. While several of these understanding were cited by participants, the vast majority of participants – 85% (n=67) - believed that addiction is a disease yet few cited explanations reflective of the contemporary concept of addiction as a brain disease.

Table 8: Service users' various understandings of addiction (N=78)

Understanding of Addiction	**Illustrative quote**
Addiction as a disease (n=67)	• *Addiction is a progressive disease which ends up in jails, institutions and death. It's just being powerless over my drug of choice, just wanting more and more not wanting to stop even if it causes pain or remorse.* • *A cunning disease that changes your perceptions and realities. I understand that some of it is genetically pre-disposed whilst other contributing factors include childhood experiences, role models and personality types.*
Addiction as a brain disease (n=3)	• *It is a disease of the brain and only certain people become addicts.* • *Addiction happens when a part of your brain starts to see drugs, self-harm, anything as the best way out from anything, the best cure for loneliness, the best way to numb pain, the only way to feel ok. When your body and your mind need something so badly that you will hurt and be hurt to get it.*
Addiction as a result of environment (n=1)	• *As children growing up in an environment and then emulating the behaviour of the adults leads to addictive behavioural patterns and the negative consequences.*
Addiction as a moral issue (n=3)	• *I can't help feeling that the disease concept removes responsibility. I know in all honesty that I chose my path. I had a conscious want to self destruct … I kept choosing the wrong road because I had convinced myself that it was the only one I had.* • *I understand addiction as a flaw in my choices, behaviours and actions.*

Addiction as a result of poor emotional regulation and coping (n=13)	• *For me it was an emotional addiction – I was suppressing and drinking away my problems as I did not know how to deal with them, they were all too overwhelming.* • *The easy way out of pain… running away from problems.*
The addictive personality (n=2)	• *I realised that most character traits of addicts are similar. Lack of self love, lack of self esteem, the need to be affirmed by other people and not being able to deal with life's setbacks and challenges.* • *[addiction is] susceptibility to compulsive and impulsive behaviours.*
Addiction as an obsession and/or compulsion (n=51)	• *Addiction is a compulsion on steroids.* • *The main characteristics are obsessive thinking about drugs and compulsive using.*
Addiction as avoidance (n=10)	• *Something is fundamentally not at ease when we are young. We don't like our "situation". We use alcohol or drugs to deaden it, hide it or pretend it's not there …even if it's in our own mind.* • *Everyone is trying to run away from something else.*
The hole in the soul theory (n=5)	• *I seek solace and comfort in a substance outside of myself to assist with filling the cavern in my soul. I depend on alcohol and food (even shopping) to dull the ache of loneliness, depression, abandonment and critically low self-esteem. Although I am sober, I have not found a worthy substitute to fill the vacuum.* • *It's a disease that is a compulsive obsession to utilise outside stimuli (drugs, food, sex, alcohol etc.) to fill a hole that I have in my soul … the disease is utilising something to make an addict feel better as we feel inadequate as ourselves.*
Addiction as a mental illness (n=2)	• *I understand addiction as a mental illness … the drug abuse was/is only a side effect.*
Addiction as a result of repetitive, habitual behaviour (n=4)	• *[Addiction] is a nasty habit. Leads to being a nasty person.* • *Continually doing something or an activity and returning to do it despite its negative consequences.*
Addiction as an escape (n=3)	• *My addiction was my escape from it all … I thought it was just all way to much for me to handle.* • *The need to escape reality with a substance or behaviour.*
Addiction within the biopsychosocial model (n=2)	• *I understand that for some of us it is genetically pre-disposed whilst other contributing factors include childhood experiences, role models and personality types.*

The above table makes it clear that while the vast majority of participants consider addiction as a disease, they have internalised several manners in which they understand addiction with strong references to the ideas of compulsion and loss of control (n=51). Furthermore, something worth noting is that in the open ended question 'How do you understand addiction' only 32% (n=22) actually used the word 'disease' or drew on the disease model to supplement their answer. It was only when participants were directly asked 'Do you believe addiction is a disease' that the remaining participants indicated whether they did or not. The observation that most participants did not draw on the disease model in their qualitative answer speaks to the possibility that the notion of addiction as disease is not always the first idea that comes to mind in term of how recovering addicts understand their addiction regardless of the fact that the majority of the participants did believe it is a disease.

According to Sanchez (2000), explicit knowledge is information that can be described and explained while tacit knowledge is knowledge that is person specific. With regards to the above observation and the concept of knowledge internalisation, an interesting question is raised namely: do participants merely accept the concept of the disease model as a way in which to understand addiction (explicit knowledge) or have they truly internalised this model (tacit knowledge)?

Furthermore, none of the participants who identified gambling as the primary reason they sought help (n=12) mentioned the disease concept when they were given an opportunity to answer the question 'How do you understand addiction' but most (n=8) drew heavily on ideas of 'habits and repetitive behaviour'; 'compulsion' and 'loss of control'. This may illustrate that participants' own understandings of gambling are actually reflective of the DSM-IV-TR categorisation of gambling as an impulse control disorder rather than as an addiction in its own right.

Theme 2: The application of the disease model

The disease model of addiction is based on the fundamental premise that something can be considered a disease if the following categories can be identified and defined (O'Brien, 2003):

- Symptoms – i.e. how does the addiction manifest?
- Aetiology – i.e. how do we explain where it comes from?

- Course/progression – i.e. what happens from the first time a person tries the drug/behaviour until the time they are ready for treatment?
- Treatment – i.e. can the disease be treated?
- Response – i.e. do people respond to treatment?

While a significant 85% of participants in sample one (n=67) felt that addiction was a disease, not all participants were in agreement when it came to whether or not all people with addictions have the same disease. This is illustrated in Figure 6 below.

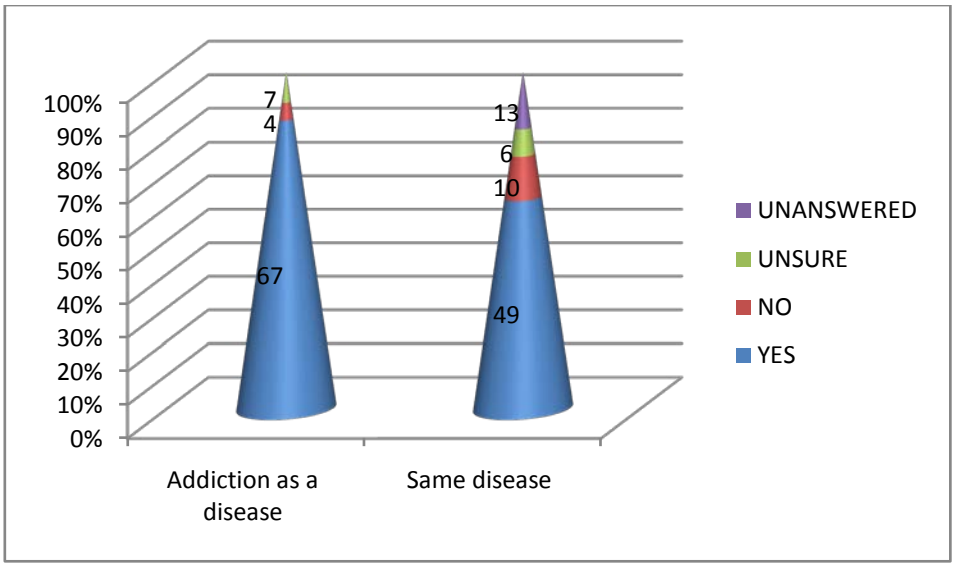

Figure 6: Applications of Addiction as a disease, sample one (N=78)

Participants who did believe that the disease is the same for all people with addictions/compulsions (n=49) reasoned that:

- *"Whether you are addicted to crack, coke or food, you are still addicted and are a victim of the disease of addiction, you are just using outside stimuli to try and fill what is missing inside".*
- *"From experience, I have found that whatever was the chosen activity or substance of my addiction, the sinking feeling of terror for its absence was the same. I believe that no one thing is more addictive than the other as it is compulsion that drives me, not the substance".*
- *"I think the disease is the same, we just use different things according to our life history in order to cope. A hole in the soul is a hole in the soul".*
- *"I believe that the disease of addiction is like diabetes or cancer (any disease as such) which can also vary in severity. The addict can precipitate the progression of it as well. Some people have 'galloping*

cancer' and die and others treatable cancer and end up in remission or live a relatively long period after diagnosis. Either way, they both have cancer ".

On the other hand, participants who did not believe that the disease is the same for all people with addictions (n=10) commented that:

- *"No two addicts are the same. I believe that addiction is a disease of the spirit. Not all people have the same spiritual malady".*
- *"There are different levels of addiction".*
- *"I don't have any opinion on others people's disease and am only certain about my own".*
- *"Different addictions/compulsions therefore can't have the same disease".*

The above indicates that while most recovering addicts appear to accept the disease model of addiction, there is a lack of consensus as to whether Addiction is a base disease that manifests in a variety of manners or whether the various manifestations are diseases themselves. This indicates that this topical debate is very much alive in the practical world and is not just a theoretical construct. The reason this variable was discussed so extensively in the literature and examined in the study was based on the hypothesis that understanding Addiction as the disease would possibly help individuals manage their diseases better as they would be more conscious of the various manners in which the addiction would fight for expression. Deeper awareness of the far reaching nature of the disease would in turn assist with lower incidence of relapse. However, after statistical analysis understanding of addiction did not appear to impact on relapse (this will be discussed in objective 5) yet this could have been due to lack of small sample size.

3.1.2. Objective 2: To explore how service providers understood addiction and to establish if variations of understanding existed.

Theme 1: Understanding addiction within the disease model

Most participants (95% n=19), understood addiction as a disease whilst only one participant (a young social worker new to the field) did not cite the disease model when explaining her understanding of addiction.

Table 9: Service providers' various understandings of addiction, sample two (N=20)

Addiction as a disease (n=19)	• *I believe it is a disease. They haven't discovered the gene yet, but I think they probably will discover it as some stage. You know some people can experiment and have fun with alcohol and drugs and others then become dependent on it.* (Occupational Therapist and Addiction Counsellor) • *I think that it really is a disease in itself that effects every level of a person's functioning … if you look at the criteria for a disease and you look at substance abuse, then it meets the criteria very nicely in the sense that it has a physical impact which can then also have an emotional and mental impact. It is progressive unless it is interrupted and of course it can be life threatening unless it is treated and therefore there should be a strong medical component in addressing this.* (Social worker) • *I understand it as an illness and it's something that, it's not to do with will power a lot of people think that addiction is will power. Oh you just have to 'say no'. I understand it is something that you have an illness and that's something that you will have for the rest of your life and it's about choices and consequences and you know making the right choices and the wrong choices, that's what leads to addiction or relapse … I think I see it as it is something that addiction is not cured.* (Social worker)
Addiction as avoidance and poor emotional regulation (n=1)	• *I understand it as often addicts and alcohols come from very broken homes, very chaotic childhoods and they are not necessarily given the coping skills, sort of taught coping skills on how to cope with life. So I think it's become really overwhelming for them, so instead of actually dealing with the problems that arise, they develop avoidance techniques of just how to escape the terrible feelings that they are experiencing and I think they start from a young age doing that in different ways.* (Addiction Counsellor)
Addiction as a brain disease (n=3)	• *The debate around whether it's a disease or not, I think it's just a semantic thing because at the end of the day for me addiction is a brain disease, because again when you pattern the brain it shifts and rewires itself … the neuro-circuitry shifts and changes to an unhealthy wiring and that way it is a disease.* (Counselling psychologist) • *I understand it to be a brain disease, that affects the chemicals in the brain … you know that you find that people for years wouldn't use and as soon as they use they go back straight down the same path, so and it brings all that, I think all that disease then forward and it becomes, it's almost dormant for a while until you trigger it with a relapse and then every single thing comes back activated again in the brain itself.* (Social worker)
Addiction as an obsession and compulsion (n=3)	• *I understand it as addiction being an obsessive compulsive type disorder of the brain, the disease concept.* (Addiction Counsellor)

Addiction as a result of environment (n=3)	• *Since I have worked here I have noticed that a lot of the clients who obviously are addicts had such a long and traumatic and very saddening background. You know, how they were brought up or what circumstances they fell into, types of relationships they were in, the amount of abuse with the sexual, mental – everyone has a history, everyone has a history.* (Social worker) • *Ja I do think so [Addiction is a disease] I think there is a whole lot of other factors included … peer pressure, personal problems, family problems, financial problems. I think those are the factors that can lead to that.* (Social worker)
The addictive personality (n=1)	• *Obsessive compulsive, ADD, you will normally find…the same behavioural patterns in addicts … at school they never felt loved, they never felt part of, they were either rebellious or they were over achievers or under achievers. They were OCD, they had huge trauma, unresolved trauma and they don't know how to deal with things.* (Addiction Counsellor)
Addiction and trans-generational transmission (n=1)	• *Family constellations, repetitive family constellations down the line though generations … and so it's about how does one break those cycles and because we are beings of habit, we gravitate to that we are familiar with. (Counselling psychologist)*

The disease model was cited spontaneously by most participants in sample two who were addiction counsellors (n=7) when asked about their understanding of addiction. Although this figure was slightly higher for non-professional staff as opposed to formally trained professionals (n=4) it is a promising result which alludes to the possibility that the disease model is heavily adopted as part of a Minnesota Model. Furthermore, it is likely that the difference in spontaneously referencing the disease model of understanding addiction - between sample one and sample two - can be accounted for by appreciating that the participants in sample two work with the content of addiction in their daily work lives as it is an integral part of their jobs thus the theory of the disease model appeared to be far more internalised as it forms an integral part of their theoretical knowledge base. This is displayed in the figure below.

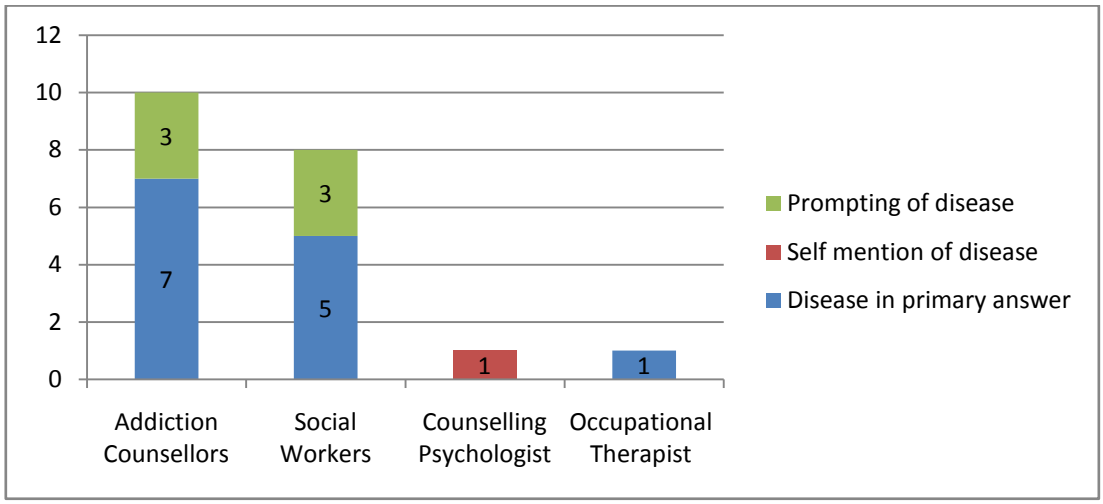

Figure 7: Mention of Addiction as a disease, sample two (N=20)

Nonetheless, it was also apparent that while the disease model featured as the predominant source of explanation, many participants noted that their understanding of addiction had progressed from the time they began working in the field (n=17) which has had implications for the adoption of the disease model as the only source of explanation. Some changes that were noted included:

→ <u>View on prognosis</u> (n=2): *"in the beginning I was less hopeful about recovery of addiction …because the pattern was something that everyone would gravitate to …my ideas have changed in the sense of understanding how patterns can shift and change when people action".* (Counselling psychologist)

→ <u>View of addicted people</u> (n=1): *"In the beginning it's like 'just leave it' or 'you know what it's something you can help' but as you work more with it you understand that it's not something you can help and most people hate being addicts, they hate using, they hate hurting the people that they love but yet they still do it".* (Social worker)

→ <u>Exclusive reliance on the disease model</u> (n=4): *"It has changed from time to time. I mentioned the disease, there is a part of me that feels it's a behavioural thing".* (Addiction *Counsellor); "understanding that addiction is also about trauma …it's not only because of the genes".* (Addiction counsellor); *"When I started I was very 12 step based, very Narcotics Anonymous and Alcoholics Anonymous and actually all of the treatment centres I have worked at have been Minnesota model. The longer I am doing this the more I am coming to grips with the fact that the 12 step programmes are wonderful but they are not the only way".* (Addiction Counsellor); *"when I came into the field I*

was very 12 step based … I am moving away from that model towards more of a coaching model or a motivation model … I always used to preach the abstinence model, I have clients that model doesn't work for". (Addiction counsellor)

→ Changes in treatment approaches (n=2): *"I think that substance abuse is quite different, the way we treat it than we did fifteen years ago … so I think treatment methods have changed".* (Social worker)

→ People can use drugs without being addicts (n=2): *"I wouldn't like to say everyone that does drugs has the disease of addiction".* (Addiction counsellor); *"I always thought you have got a drug problem, you have got an addictive illness … I don't think it's as black and white as I always thought it was".* (Addiction counsellor)

→ The scope of the disease (n=5): *"I have seen much more working in the field not only with drug addiction but like self mutilation, sex addiction more I suppose of the various other addictions".*(Addiction counsellor); *"the more I learn and the more I am in the field … the more I realise that I don't know".* (Addiction counsellor); *"in the beginning I suppose everybody believes you can change everyone and everything and save the world … I have come to realise that addiction is a lot harder … and that patients irrespective of how nice and kind they are and how sweet they appear …patients will lie and it doesn't matter what you do, they lie to you".* (Social worker)

→ Expanding on a foundation (n=2): *"the basics around what addiction is about stays the same but there way you view it and the different ideas that you come up with I think that gets fine tuned all the time".* (Social worker); *"I think it has broadened, the basics haven't changed".* (Addiction counsellor)

Developments in understanding were attributed to:

- Reading, literature and research (n=16)
- Studying/courses/talks/workshops (n=12)
- Discussion with colleagues in the field (n=6)
- Learning from clients (n=8)
- Practice and experience (n=5)
- Keeping up to date with recent literature and developments (n=2)

From the above, it becomes clear that while the disease model of addiction is certainly the most influential model and approach to treatment amongst participants in sample two, several of them (n=7) are not disease model 'purists' and there seems to be a shift away from relying solely on the disease model to a more inclusive and eclectic approach from which to understand and treat addiction. (It is ironic that when substantiating his reasons for this move one participant cited issues such as client relapse and challenges with abstinence which is inherently part of the nature of the disease of addiction).

Whilst the use of different models such as trauma models and more psychodynamic models will certainly serve to deepen the more aetiological aspects of the addiction's origin and many authors propose that the treatment of trauma and substance abuse should be simultaneous (Dass-Brailsford & Myrick, 2010), one should bear in mind that delving deep into childhood trauma and the unconscious at the best of times is only done with patients who display some form of ego strength (McWilliams, 2004). Substance abusers are known to display poor emotional regulation (Riley & Schutte, 2003) and have great difficulty mentalising (i.e. being aware of their own mental states) (Allen, Bleiberg, Haslam-Hopwood, 2003), and thus in terms of addiction treatment it is a strong belief amongst many treatment providers that the treatment addiction itself needs to take priority "individuals need to get clean and sober, accumulate some significant clean time, learn to live in reality so that they are eventually resilient enough to start exploring their inner worlds" (S.Rahme, personal communication, May 24, 2011). Other authors propose that while trauma can impact on the treatment and recovery of people with addictive disorders, the treatment of the addiction alone with an avoidance of the treatment of the trauma can hinder the achievement of a "full recovery" and hence both elements need to be addressed albeit at different points throughout the process (Carruth, 2006, p. 47).

Theme 2: What can be an addiction?

The vast majority of participants (95%, n=19) reported that people can be addicted to anything while only one participant felt that drugs, gambling and eating disorders could be addictive processes within the disease model of understanding addiction. Some of the participants illustrated this point by stating that:

- *"Addiction is an escape … it's something to get out of your skin … it's something that makes you feel better about yourself. I suppose it's like changing your state of being and wanting to feel better. I think that's what addict chase – its wanting to feel better all the time and obviously escaping from reality, from what they are actually feeling like depression, uncomfortable emotions, trauma that sort of stuff".*
- *"I think anything that you use or do that causes you shame and guilt and you are unable to stop. So I think you can be addicted to anything from substances to behaviours".*
- *"Anything can be an addiction. It's about obsessing about something that becomes your primary relationship. Addiction is about a primary relationship with something that overrides every single thing else and it's not healthy. So it could be with anything".*

While most participants stressed that addiction can include a plethora of activities, they also stressed that while there were many similarities in the expression of these compulsions, there are also minutiae specific to each addiction. Moreover, this has implications for the treatment of various addictions because while the process might be comparable across them all, the content might vary depending on what is being treated. Participants elucidated on this topic as they shared:

- *"Let's say they have three addictions, you might talk about them separately … I think your approach to it and the specific things which you would focus on would be different … but the underlying theme of the way addiction is and how they use it to cope with life, that is the same throughout".*
- *"It's very similar* [drug addiction and gambling]. *When you look at the two addictions it is very similar. In nature it's the same disease but gamblers have different triggers".*
- *"Although we would put a sex addict in a group with other addicts and alcoholics we would try look for similarities rather than differences, but on an individual one-one-one basis it is very specific work you need to do with a sex addict".*

An additional distinction emerged when participants spoke of sex addiction and eating disorders in comparison to the chemical addictions as participants explained:

- *"Sex addiction is a difficult one …sex addiction and food addiction are similar … because you can't abstain from them. You have to learn to manage them … it's a little different from I suppose the gambling you wouldn't engage in the lotto, whereas with sexual addiction you don't engage with porn sites and the prostitution and the acting out behaviour but you have to normalise an intimate relationship with your partner".*

- *"The thing that you can't abstain from is if you are married to someone you can't abstain from your spouse … and you can't abstain from food altogether".*

The above data demonstrates that while the disease of Addiction can manifest in a variety of manners which can all be seen as varying expressions of the same illness, there are in fact contextual differences and nuances that are specific to the way in which these various manifestations need to be approached and treated.

3.1.3. Objective 3: To ascertain how service users' various understandings of addiction affected the type of treatment plan followed.

Theme 1: Interpretation and application of the disease model and abstinence

Within the disease model, addiction is viewed as a chronic, progressive illness that if left untreated can prove fatal (O'Brien, 2003). However just like cancer, it can be put into remission and arrested with abstinence and positive change (Keane, 2000). Many participants highlighted this as they reported:

- *"I have a disease, I cannot control mind altering substances. The beauty of having this disease is that there is spiritual medicine that can help you".*
- *"A disease of compulsion – I am not in control of my action and reactions once I take that first drink or drug. It is imperative to stay away from the first one!"*

However just like a cancer is prone to relapse, so too is the disease of addiction. Within the NA literature, the disease is frequently referred to as powerful and cunning illness and addicts are encouraged to actively and vigilantly work their recoveries by adhering to complete abstinence from all mind and mood altering substances and behaviours while frequently attending meetings as one of the well known 12 step slogans proposes "stopping isn't the problem, it's staying stopped" (C. Carastavrakis, personal communication, March 17, 2011).

When questioned about the factors that contribute to their sobriety, participants in sample one identified the major components as:

Table 10: Factors contributing to sobriety, sample one (n=72)

Factors contributing to sobriety	**Number of participants (n=)**	**Percent**
Attending meetings	29	37%
Doing step work and/ the principles of the 12 step programme	25	32%
Support in the form of: • Having a sponsor • Family and friends • Socialising with non-using friends	25	32%
Remembering the consequences of addiction i.e.: • Hitting rock bottom • Knowing what will happen if relapse occurs	15	19%
Rebuilding life; feeling healthy and happy again	14	18%
Therapy, working through emotional issues, working on self	13	17%
Following the programme i.e. - following suggestions - doing what is necessary to stay clean	11	14%
Higher Power	11	14%
Fellowship with other addicts	9	12%

The above was illustrated as participants noted:

- *I was in jail for 21 days. I know if I use I will end up back there and I want to be a success in life.*
- *I don't want that life anymore, I love my new life.*
- *I do not ever want to feel the pain of having to use drugs/alcohol ever again. My life has turned around for the better and nothing is worth losing myself for.*
- *I have had plenty of opportunity to get away with it and I have been tempted to give it another try but I "play the movie through" and I get scared of the repercussions … the consequences always outweigh the "fun" that I think I am going to have.*
- *I love the serenity, I don't want chaos. My life works and my head is quiet.*

- *I still associate drinking with negativity in my life I would have to go into compete denial to drink again. My relationship with alcohol could not be comfortable again.*
- *If I relapse I know I won't stop again and it will kill me.*

Participants from sample one (n=72) highlighted that attending meetings, following the 12 step programme and support were the three main factors they believed to have assisted in maintaining sobriety. This finding is concurrent with the literature as much research has identified that more frequent attendance of 12 step meetings together with active engagement with the 12 steps significantly impacts on future drug use (Kelly, Brown, Abrantes, Kahler, & Myers, 2008; Weiss et al., 2005) and Hunter-Reel, McCrady and Hildebrandt (2009, p. 1282) recorded that "best outcomes occur when support for abstinence comes from all members of the network. Having more …support from family friends and work associates is associated with lower risk of relapse".

Despite the fact that the philosophy of the disease model in its purest form encourages abstinence from all mind and mood altering substances and behaviours, it is interesting to note that of the sixty seven participants who understand addiction as a disease, 71% of them (n=48) currently use some form of addictive substance or behaviour. One participant stated that:

> *"I chose to attend NA meetings when I felt the time was right to get other peoples perspectives on this "romance" we all share in common. I refused to quit drinking alcohol. My view was that most of the people at NA had simply swapped one form of addiction (drugs) with another (NA meetings)".*

Of these forty eight participants, seven cited the use of the initial substance/behaviour for which help was initially sought, the remaining forty one participants cited current use of other substances/behaviours. This is graphically represented in the table and figure below. The occurrence of such a phenomenon, introduces two concepts which emerged as predominant themes in the study namely cross addiction and relapse which will now be discussed.

Table 11: Understanding of addiction and treatment plan, sample one (N=78)

	Addiction as a disease Yes	Addiction as a disease No/Unsure
Understanding of addiction	n = 67	n = 11
Attendance of 12 step meetings	n = 67	n = 7
Occurrence of relapse	n = 54	n = 7
Complete abstinence from all mind/mood altering substances and behaviours	n = 16	n = 3
Current use of any mind/mood altering substance and/or behaviour	n = 48	n =6

The above table highlights that all sixty seven participants who understood addiction as a disease attend (with varying frequency) 12 step meetings. Furthermore only sixteen participants adhere to complete and absolute abstinence from all addictive substances and behaviours. Of the forty eight participants who do currently use some form of addictive substance or behaviour, nicotine was the most popular as thirty two participants (41%) identified themselves as smokers (Figure 8).

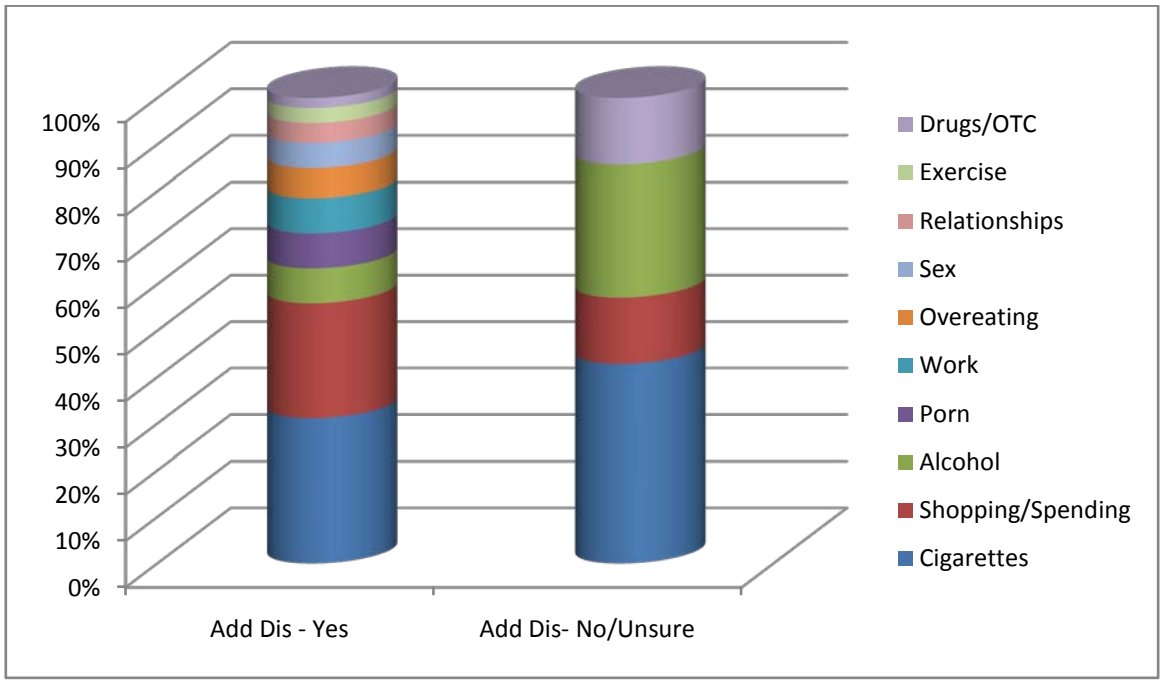

Figure 8: Most commonly cited substance/behaviour currently used, sample one (N=54)

Theme 2: Cross addiction and multiple dependency

It is well documented that addictions rarely exist in isolation and it is not uncommon to treat one addiction only to see the emergence of another (Sussman, Lisha, & Griffiths, 2010). In her latest non-fiction novel exploring the reality of living with Bulimia, South African author Joanne Jowell (Jowel, 2011, *Finding Sarah: A true story of living with bulimia,* p. 33) encountered the phenomenon of cross addiction in an interview with a well known psychiatrist:

> Often if somebody has an addiction, they tend to cross addict. So they may have a food addiction, but if the food component of the illness isn't playing up, then they cross-addict and may start abusing substances for a while; then, when they stop abusing substances they go back to the food and they start with the eating disorder again, or the gambling, or drugs, or alcohol, or one of the many possible addictions.

One participant highlighted this as she commented that:

> *"I was prone to binge drinking when the weekend started or when the party started. I never drank during the week but would certainly binge drink in weekends. I always told NA I would never quit drinking and to this day I have kept my word".*

Cross addiction or addiction substitution can emerge at various points in the recovery process (Sussman, Lisha, & Griffiths, 2010; Procopio, 2005) as Procopio (2005, p. 302) notes: "The addiction is lifelong; the way to express it changes". This was evident in the data. When participants were questioned as to whether they had experienced excessive/addictive/compulsive tendencies other than the initial reason they sought help, 36% of participants (n=28) reported they had experienced additional addictive behaviours prior to treatment, 27% (n=21) reported that while in treatment they experienced additional addictive behaviours, 17% (n= 13) reported that it was only after leaving treatment that additional addictive behaviours surfaced while 5% (n=4) reported that they had experienced a range of addictive behaviours before, during and after seeking help. The remaining 10% (n=8) who did not seek formal treatment for their addictions still reported experiencing a range of addictive and excessive behaviours other than their primary addiction.

Participants explained their perceptions about cross addiction as they stated:

- *"As time progressed from my very first NA meeting I slowly began to restrict my heroin use to weekends only. This was an interesting period in my life as it saw many many attempts at getting this right. It also allowed for many heroin withdrawal sessions and brought to light some very*

creative heroin withdrawal weaning techniques. It was the love of my life and I never wanted the romance to end. Eventually I replaced one lover (heroin) with another (boyfriend)".

- *"I realised when I made a fearless moral inventory of myself [step 4] that I had a problem with drugs, alcohol, sex, cigarettes, love in the past and used them excessively".*
- *"I have always been a workaholic, drugs came afterwards. I based my self-worth on my work achievements. I also find it difficult still to have nothing to do so I much prefer to have a lot of work to do so I don't have to sit with myself".*

One participant accurately highlighted the nature of addiction and the various stages they can emerge in as she explained:

Before treatment – alcohol intervention – reason for treatment
During treatment – smoking/shopping/exercise – cross addiction
After treatment – food – primary addiction

Participants were also able to display this information pictorially as they were asked to draw a time line of their experience with addiction and recovery. Figures 9 and 10 highlight how various manifestations of the disease emerge over the course of the illness.

Figure 9: Participant illustration of experience with multiple dependency, sample one (n=1)

Figure 10: Participant experience with multiple dependency and cross addiction, sample one (n=1)

From the above illustrations, it is visible that the addictions can co-exist and subsist together in parallel processes for example. Figure 9 highlights how the participant's alcohol and food addiction existed simultaneously while Figure 10 illustrates how the participant 'disease' began with a sole addiction (only the alcohol), it then progressed to two (drugs and alcohol), it then substituted drugs for gambling (alcohol and gambling), until finally all three emerged (drugs, gambling and alcohol).

Theme 3: Relapse

Relapse presents as a significant challenge to treatment (Becker & Curry, 2008; Stewart, 2003) and it is an unfortunate reality that for many, relapse is part of the process of recovery (Pederson & Hesse, 2009). In fact Marlatt, Baer, Donovan, and Kivlahan (as cited in Shaffer et al., 2005) place the figure of relapse within the first year of recovery for addiction at a staggering 80 to 90%. Out of the seventy eight participants of sample one in this study a significant 77% (n=60) reported that they had –at some point – relapsed. Furthermore of the sixteen participants who stated they had never relapsed, seven confirmed that had in fact come close to relapsing. It appears as if the major factors – as described by the participants - that contributed to relapse were as follows:

Table 12: Factors contributing to relapse, sample one (n=66)

Factors contributing to relapse	**Number of participants**	**Percent**
To numb out from emotional pain and/ emotional difficulties	20	26%
Programme related issues i.e.: • Lack of faith in the programme • Lack of surrender, not listening to suggestions and doing things "my own way" • Stopped going to meetings • Not taking things seriously	17	22%
Socialising with old using friends and/ going to old familiar using places	14	18%
Stress and/ work related issues	13	17%
Boredom and complacency	10	13%
Cross addicting and having reservations about alcohol	10	13%
Relationship related issues i.e.: • Getting into a relationship with another addict • Getting into a relationship • Having sex again • Marriage difficulties	7	9%
Testing personal control i.e.: • "Things will be different this time" • "I will be able to control things now" • "I am cured"	7	9%
Conflict and anger	7	9%

As is evidenced above, many factors contribute to relapse (Maisto, O'Farrell, Connors, McKay, & Pelcovits, 1988). However, avoidance of negative affect (i.e. escaping negative feelings) was cited by most participants as a major reason for relapse. According to several authors (Hunter-Reel, McCrady, & Hildebrandt, 2009; Litman, Eiser, Rawson, & Oppenheim, 1979; Miller, Westerberg, Harris, & Tonignan, 1996, Strowig, 2000) negative mood states are the most prominent antecedent for relapse. In a study conducted by Brown, Goldman, & Christiansen (1985) it was found that heavy drinkers expected an improvement in negative mood from drinking and that those with low tolerance for emotional distress were more likely to relapse (Abrantes et al., 2008). Furthermore, relapse frequently occurs in individuals fresh out of treatment or in very early recovery and one way of understanding this with regards to the above may be that they are not resilient enough and haven't yet acquired the skills to handle negative emotional states, stress and the "uncomfortable feelings caused by stress" (Perkinson, 2008, p. 147).

The repetitive nature of the disease and occurrence of relapse was also evident in the fact that of the forty two participants who received formal[2] treatment for their addiction/s (i.e. they attended treatment at an inpatient or outpatient rehabilitation centre), twenty five stated that they had been to rehabilitation centres on more than one occasion – 60% rate of recidivism – with two participants reporting they had both been to 6 rehabilitation facilities. Hence it becomes clear that for some, the journey of recovery has been one fraught with relapse as Dennis (2007) notes "the average person uses for 27 years and it takes them three to four admissions over 8 to 9 years to reach recovery" (*Alcoholism & Drug Abuse Weekly*, 2007*).* This was evident in the data as most participants' (n=46) actual 'clean time' was less than the time they noted they have been in a process of recovery. For example one participant noted she had been in a process of recovery for eight years but was clean from drugs and alcohol for twenty one months and from anorexia and bulimia for four days. While another noted he had been in a process for seven years but was clean from gambling for three and half weeks and yet another stated he has been in a process for fifteen years but was clean from drugs and alcohol for sixty days.

Table 13 organised treatment information.

[2] Formal treatment is used to refer to inpatient or outpatient rehabilitation. For purposes of this study it does not include help received from attending meetings at any of the 12 step fellowships.

Table 13: Times in treatment, sample one (N=78)

Addiction	Participants	In formal treatment	First time in formal treatment	Previous formal treatment	Other treatment methods
Drug(s)	n = 19	Yes n =4 No n = 15	Yes n = 2 No n = 2	Yes n= 14 No n = 3	- Spontaneous remission n = 1 - N.A. meetings n = 2
Alcohol	n = 12	Yes n = 5 No n = 7	Yes n= 1 No n = 4	Yes n = 8 No n = 3	- A.A. meetings n = 3 - Therapy with addiction specialist n = 1
Drug and alcohol	n = 24	Yes n = 8 No n = 16	Yes n = 4 No n = 4	Yes n = 17 No n = 3	- N.A. meetings n = 3
Gambling	n = 12	No n = 12		No n = 12	- G.A. meetings n = 8 - G.A. meetings and therapy with addiction specialist n = 4
Eating disorders/food addictions	n = 5	No n = 5		No n = 5	- O.A. meetings n = 4 - O.A. meetings and therapy with addiction specialist n = 1
Sex addiction	n = 2	No n = 2		Yes n = 1 No n = 1	- S.A.A. meetings n = 1
Drugs and: Sex Alcohol and sex Self mutilation Self mutilation and eating disorder	 n = 1 n = 1 n = 1 n = 1	 No n = 1 No n = 1 Yes n = 1 No n = 1	 No n = 1	 Yes n = 1 Yes n = 1 Yes n = 1 Yes n = 1	

A few points are worth mentioning with regards to the above table:

- Out of the twelve participants who identified gambling as their primary problem and of the five participants who identified food addiction/eating disorders as their primary problem none of these seventeen participants received formal treatment.
- Furthermore, of all the participants who did not receive formal rehabilitation for their addiction (n=17) all mention 12-step meetings within their specific problem area (i.e. GA and OA) as the means in which they found recovery.

There is value in contemplating the above as one has to wonder why it is that people recovering from gambling and food addiction did not seek out formal help. Although this is a small representation of the general population of all people recovering from gambling and food addiction (n=17), questions need to be considered such as: is there a larger-scale trend in the lack of formal help sought from these sub-groups and if so, why is this so? Is there a perceived lack of 'specialised' help regarding gambling and eating disorders and a lack of resources when it comes to its treatment in South Africa?

In addition, secondary to formal rehabilitation, 12 step fellowships appeared to be the next most popular form in which people access help. In research conducted by Moos and Moos (2007) it was found that individuals who attended extended formal treatment (i.e. longer periods of time in treatment) and individuals who extensively participate in 12 step meetings were more likely to achieve "sustained remission" (i.e. abstinence). Moreover individuals who attended treatment in conjunction with attendance at 12 step meetings were more likely to experience "higher rates of remission than those who only participated in one treatment" (Moos & Moos, 2007, p. 576). As the parallel process of formal treatment and meeting attendance is associated with higher rates of abstinence, it would be interesting to conduct further research into the difference of long term outcomes for those who attended treatment and meetings in contrast to those who sought only one form of help.

Figures 11 and 12 accurately illustrate participants' experiences with relapse and the reality that it is too often a recurring phenomenon. It is evident from the two illustrations that both participants have experienced the 'revolving door syndrome' of addiction as they have both experienced recurring episodes of using, treatment, abstinence and relapse thus illuminating the persistent nature of the disease.

Figure 11: Participant illustration of experience with relapse, sample one (n=1)

Figure 12: Participant illustration of experience of relapse, sample one (n=1)

Tying it all together, one participant outlined his journey with addiction, multiple dependency, relapse, treatment and ultimately recovery.

From 11 to 17 years I lived in America

13 years old – Start smoking marijuana and drinking alcohol (spirits and beer)

14 years old – Start using speed and mild hallucinogenics (synthetic mescaline)

15 years old – kicked off my high-school basketball team for being drunk at practice

16 years old – Start using cocaine

17 years old – Parents move back to South Africa and I move in with aunt and uncle in Los Angeles

17 years old – first confrontation with the police over suspicion of house breaking

17 years old – expelled from high school in 11th grade for excessive bunking although expulsion not processed as it was agreed that I would not come back to the school the next year

17 years old – Sent back to South Africa because my aunt and uncle were not willing to let me stay because of my behaviour

18 years old – Start using mandrax

19 years old – Arrested for marijuana and sentenced for possession. First sentence

21 years old – First time in rehab – Phoenix House – Stayed for 3 months and left before completing programme as I wanted to continue using marijuana and alcohol – back on mandrax within a week of leaving treatment

22 years old – Arrested and prosecuted for the 2nd time for possession of marijuana

22 years old – start intravenous use of welcanol (spiking)

23 years old – drop out of university

23 years old – arrested and prosecuted 3rd time for possession of mandrax

23 years old – Go into three treatment centres during this year and do no complete one programme, leaving always to continue using. Went into Castle Carey, Harley Clinic and some place out in Krugersdorp

21 to 23 years old – Constant use of mandrax, welcanol, lsd, diet pills, sleeping pills, alcohol, marijuana

23 years old – end up in hospital with a 44 degree fever, damage to my leg from spiking, septicaemia from using dirty needles, I had kidney failure and my heart was shooting clots. I spent 2 weeks in ICU and 3 weeks in a hospital ward. I had 2 operations on my leg with the 2nd one being required because I spiked again and damaged the same area. To this day I have problems with swelling and circulation in that leg

24 years old – go into treatment in Mitchels Plein in Cape Town at a place called Lentegeur. I stayed for 3 months and left once again with the intention of stopping all the hard, chemical drugs and only using dope and alcohol

24 years old – Briefly involved with the newly formed NA fellowship in Johannesburg. In those days we had 1 meeting a week in Hillbrow and there were about 5 to 12 NA members in the fellowship. I left because I didn't think alcohol was a drug or that marijuana was my problem.

24 to 27 – Basically kept things fairly tidy, got a good job, in a steady relationship. Constantly using alcohol and marijuana with occasional binges on the harder drugs such as mandrax and lsd. I even had a 2 week relapse onto welcanol injections but stopped that before it got too late.

26 years old – Use crack for the first time and spend about 3 months smoking and ended up pawning lots of my stuff

28 years old – I first take ecstasy and start raving, drug use starts to increase

30 years old – quit my work because it is getting in the way of my partying

31 years old – start dealing drugs for a living

31 years old – start regular use of cocaine

34 years old – Arrested in the UK for possession of marijuana at the airport

35 years old – released from prison in the UK after a year and sent back to South Africa

35 years old – Continue using drugs and refuse offers of treatment for the next 2 years. Using any and every drug I can get my hands on and surviving through criminal activity. Using Crystal Meth, Crack, Marijuana, Heroin, Alcohol, LSD, Ecstasy and any drug I can get my hands on.

37 years old – after spending a few days in prison I agree to go into treatment and manage to stay clean for 13 months

38 years old – use crack, mandrax, cough mixture and alcohol for the last time during my relapse which is staggered over about 6 weeks, including a 4 week stay in treatment.

I am now 44 years old and have been clean and serene since December 05, 2004

I think that one of the reasons that I used drugs for so long was that I refused to accept or abide by an abstinence-based treatment model and always believed that there was some way that I would be able to control my using. In the end I had to accept that this wasn't possible and agreed to abide by a programme of complete abstinence. I do wish there were non-abstinence based treatment programmes in South Africa because I have been hearing that they are proving somewhat successful in America and Europe. Maybe if something like that would have been available in South Africa I might have been more willing to go along with it.

My stay in treatment this time around was very helpful because I was determined to stay clean. I do not think the treatment centre was able to do much in a counselling way for me because I was emotionally so dead and distant. What the treatment centre did for me was to contain me, encourage positive and healthy thinking and point me in the direction of what I would need to do to obtain long-term sobriety. That in itself was major. It was only after a few years of sobriety that I was even able to begin to access deeper emotional material within me and really begin the process of healing that being in recovery made possible

Objective 4: To determine how treatment provider's perceived various treatment plans affecting treatment outcomes namely relapse and the ability to maintain sobriety.

Theme 1: Approach to treatment

At the epicentre of the disease model is the 12 step programme. All twenty participants in sample two reported that the facilities (where they are employed) are based on the disease model of addiction and therefore draw on the 12 steps of recovery.

> *"Well the centres approach is more on the 12 steps …trying to punt that the 12 steps are the solution to this whole thing. Sure what we do on one-on-one's like we talk about your trauma that sort of stuff but ultimately when you leave treatment, I think hooking up with the fellowship of going to NA meetings, getting a sponsor, that sort of stuff, that's the long term goal and that's what we try get across here".*

However several participants (n=12) added that they draw from other approaches namely: behaviour modification and cognitive behavioural therapy (CBT); trauma models; the medical model; the Minnesota model and integrated approaches.

> *"We treat the physical side of addiction, we treat the behavioural side of addiction and the emotional side of addiction. We look at the psychiatric part that comes with addiction. We focus on families of addiction … it's basically if you had to look at specific models, the ecosystems model would probably be the best to do that and behaviouristic".*

Interestingly, regardless of the fact that all twenty participants related that they draw heavily on the disease model of understanding addiction, none of the participants indicated that the topic of multiple dependency and various manners in which the disease may manifest itself within a single individual, is covered in a typical assessment. Greenfield and Hennessey (2008) note that successful treatment of SUDs depends – to a large degree – on accurate and assessment and diagnosis. Furthermore, while most assessments typically include a thorough history taking which would examine factors such as client motivation, readiness to change and the co-occurrence of an additional disorder (dual diagnosis) (Greenfield & Hennessey, 2008) so that an appropriate treatment plan can be devised (Samet, Waxman, Hatzenbuehler & Hasin, 2007), there is a scarcity of research which advocates for a more holistic approach to addiction assessment.

In an exciting article reflecting the move towards consideration of the different manners in which addictions can manifest, Shaffer et al., (2004, p. 367) propose that rather than viewing each addiction as separate, the treatment of addiction should be more reflective of a "syndrome model". Moreover they propose that viewing each addiction separately is tantamount to viewing what we now know as opportunistic infections of AIDS as separate and rare diseases. Hence, the clinician working in the field of addiction would be wise to assess any prior and existing addictions and to expect the emergence of cross addiction as Patrick Carnes – the founding theorist of sex addiction – notes "Addictions don't just co-exist, they interact" (*Alcoholism & Drug Abuse Weekly*, 2008, p. 4). Surely by preparing and informing clients of the possible 'symptom cluster' intrinsic to the disease of addiction, individuals would be better equipped to grasp the full scope and severity of the disease and the requirements it is going to involve in order for them to recover?

Nonetheless, while the disease model together with the recent emergence of a 'syndrome model of addiction' do campaign for a broader vision of addiction (Shaffer et al., 2004), the above result indicates that the specific addiction for which the person sought help and the way in which it had affected the person's life was the main focus of the primary screening. This seems to suggest that it is plausible that right from the initial contact a client has with a formal treatment facility, the full impact and manifestation of the disease is often overlooked as the presenting symptom is the main

priority which in turn could have implications for accurate and appropriate treatment plans and hence will almost certainly impact on client relapse (*Alcoholism & Drug Abuse Weekly*, 2008; Shaffer et al., 2004). In an earlier study conducted by Kirsch and Bohnenblust (1990), the same result was found. Out of all thirty five treatment directors that were interviewed regarding assessment, the issue and existence of multiple dependency was unanimously agreed upon however less than half of the participants reported that multiple dependency was an area that was included in their initial assessments of clients. The findings from this study as well as from the 1990 study seem surprising for two reasons: firstly there appears to be a significant cleavage between what participants know and what they actually do (Kirsch & Bohnenblust, 1990) and secondly given the fact that multiple dependency cannot be divorced from the topic of addiction, if it is merely ignored and overlooked by the very people who work with it, what will this mean for their clients? Are practitioners in fact contributing the revolving door syndrome as they fail to recognise and treat multiple dependency appropriately?

According to Graham et al., (2006, p. 13) the issue of translating research findings into practice is a slow and arduous process and subsequently "patients are denied treatment of proven benefit because the time it takes for research to become incorporated into practice is unacceptably long". Frighteningly, according to the authors cancer outcomes could be improved by up to 30% of application of currently knowledge and "a 10% reduction in cancer mortality could be achieved in the United States through widespread use of available state-of-the-art therapies" (Graham et al., 2006, p. 13). It therefore appears as if greater application of knowledge and translation into practice is needed amongst practitioners who encounter chronic illnesses so that patients and clients can receive the very best in care and treatment.

Theme 2: Multiple dependency, cross addiction and treatment

Although the topic of multiple dependency was not raised when questioned about assessments, all participants appeared familiar with the concept. Feedback varied on how to treat the client with multiple dependency as some stressed that the chemical addictions have to be dealt with first. This was noted by two participant who stated:

- *"The primary thing is that they have to stay clean of the substance because you can't really start working with anything else if they don't have clean time".*

- *"You can't deal with a sex addict when he is still on crack".*

Others felt that the treatment of all addictions (i.e. chemical and behavioural) do not differ for example:

- *"I would treat it [multiple dependency] exactly the same way as every other addiction".*

Regardless of the order in which the addictions are dealt with, all participants were unanimous that is imperative to address all the ways in which the disease presents itself although, as three participants accurately surmised, this is not always possible in short term treatment programmes and hence the importance of aftercare and continuous recovery plans is introduced. This was highlighted by a participant who commented that:

"If you treat one but don't treat the others I think the person will still be …unwell, still struggling with their sickness because in actual fact …they are all part of the same toxicity".

The concept of cross addiction is closely linked to the topic of multiple dependency and is not unfamiliar within treatment circles. One participant described her understanding of cross addiction as *"acting out using different modalities to release … and cope with difficult emotions"*. Several treatment providers noted that the presence of this phenomenon often complicates the treatment process as the addiction fights for expression in a variety of forms. One counsellor commented on this phenomenon as she explained:

"If we are going to treat somebody for drugs and alcohol and they have a massive eating disorder – which we see here – they will start acting out more. See it's like a Tupperware: you close it on the one side but the other sides are popping open all the time, so it's never going to be completely shut".

Furthermore, it was felt by all participants in sample two that treatment outcomes are better for clients who are aware of and have addressed their multiple dependency and cross addiction as the emergence of an additional addiction can severely undermine a person's ability to stay clean and often contributes to relapse. This was accurately captured by a participant who noted that:

"I'm not saying if you don't treat them straight away then there is no hope of success. But if you don't treat them as they come up well certainly I think the chances are very limited that somebody is

going sustain a meaningful recovery from addictive illness while they are acting out on one of the manifestations".

In noting the above point, one participant was careful to mention that while the treatment of multiple dependency and cross addiction is necessary in theory, in practical application it can be difficult as other forms of addiction present at different stages in the recovery process and people are not always aware of the extent of their disease as she explained:

""I think it would help [treating multiple dependencies simultaneously] *but I am not sure in terms of practicality how that would work. People are very secretive about sex addiction and they would not necessarily speak up about gambling addiction either or they would not be aware that they have got a second addiction".*

Moreover, treating an array of issues simultaneously sometimes leaves clients feeling overwhelmed at the task ahead and the awareness of the enormity of how much they are required to change often leads them to relapse as another participant noted:

"[clients] *can get upset with trying to do too much and then unrealistic expectations are created and the client just thinks ah fuck it, it's all too much … and if they fall back on one thing they think 'well I might as well go back and use heroin'".*

As a result, in order to minimise feelings of hopelessness and being overwhelmed it is crucial that clients have a large network of support they can draw on which assists them in staying clean (Hunter-Reel, McCrady, & Hildebrandt, 2009). Often within the 12 step fellowships the concept of Just For Today (i.e. just getting through one day at time, living in the present and not too far in the future) is a tool that many recovering people find useful in managing their recoveries and the change they have committed to (C. Carastavrakis, Personal Communication, March 17, 2011).

Theme 3: Relapse

According to the twenty participants in sample two several factor contribute to relapse which are displayed in Table 14.

Table 14: Factors contributing to relapse, sample two (N=20)

Contributing factor	Number of participants	Illustrative quote
Issues relating to change i.e.: Resistance to change behaviour and lifestyle e.g. - don't follow suggestions - doing things "my way" - socialising with old using friends - visiting old using places Not maintaining change e.g. - stop going to meetings - stop working with a sponsor No change in family system	20	*"The prognosis across the board for addiction is …an action based programme where they are staying doing what they are doing. The minute action stops for instance going to meetings, not having sponsors they are getting more and more distance about doing what they need to do to stay in a recovery mindset and they put themselves at risk of relapsing".*
Cross addiction	15	*"At the end of the day everything links to each other. So even if there is chemicals and gambling and sex or eating or cutting …it links because the one would fuel the other one. Usually with gambling they would go gambling and then because of losing their money they would drink again and so it's like this vicious cycle".*
Adjustment difficulties - Realising the enormity of what recovery entails - Feeling overwhelmed by how much has to change - Underestimating what it is going to require	8	*"There is a kind of giving up and I think it's attached to a 'recovery is not worthwhile', waking up and it's 'this is not what I thought it was going to be'.* *"Rehabilitation starts when you walk out of your facility … although you try to do it in the setting it's a false setting here because you can just imagine when you go out there its quite different".*
Not taking things seriously, complacency and testing control	7	*"Not following suggestions and that would happen I would presume for any disease, for heart disease or diabetes or whatever. If we don't follow what the experts in that field tell us to do we will get ill".*
Poor motivation and/ lack of acceptance of the condition	6	*"I have been too long in this field and people relapse a lot … I have come to a stage where I think anything leads to relapse".*

'Issues relating to change' were noted by most participants in sample two as being the biggest factors contributing to relapse. Clients who are attempting to arrest their addictive behaviours will go through a series of stages inherent in the model of change as outlined by Prochaska and DiClemente (Fiorentine & Hillhouse, 2003). It is interesting to note that whilst the chaos and damage the addiction is causing may be reason enough to initiate contemplation over stopping, on the other hand, the denial and delusion around the addiction is so strong, that very often clients in treatment or post treatment feel severely ambivalent about permanent cessation (Fiorentine & Hillhouse, 2003) and subsequently relapse.

Furthermore, as is the case with many other chronic diseases, 'medication adherence' with the disease of addiction is a significant obstacle in treatment. Medication adherence can be thought of as the degree to which an individual takes medications as prescribed by a health care professional (Osterbeg & Blaschke, 2005). In some cases, rates of medication adherence can be as low as 35% (bipolar disorder) and 50% (major depression) and often reasons patients cite for lack of medication adherence include forgetfulness, feeling better and change of priority (Osterbeg & Blaschke, 2005). With regards to addiction, often practitioners see their clients stop attending meetings and aftercare. S. Rahme – the director of a private outpatient rehabilitation centre conveyed this as she explained "as soon as the nasty effects of their addiction have settled and clients begin to feel better (both physically and emotionally) and they begin to rebuild the relationships in their lives, they start to think they are cured. They start to get over confident and arrogant. They stop coming to aftercare and stop going to meetings. It's really just a matter of time before the denial kicks back in and they start to think they can control it again. It's very sad to see. We warn them while they are with us in treatment that this can happen but it often happens anyway" (S. Rahme, Personal Communication, May 25, 2011).

Theme 4: Staying clean

The most predominant factor that service providers felt contributed to maintaining sobriety was that of extended care or aftercare whether it be in the form of continued individual counselling and therapy or group support.

The above point was highlighted by one participant who noted:

"We believe in the process of recovery and not a recovery programme. A programme as in 2 days or in 21 days, recovery being a process that takes months, years to go that route, so we are very strong on aftercare".

Up until quite recently there has been a tendency within treatment settings to view addiction as an "acute disease" rather than as a chronic one (*Alcoholism & Drug Abuse Weekly*, 2007, p. 4). However, it is precisely because of the propensity for relapse together with the chronic nature of the disease of addiction that continued care or aftercare has started receiving much attention in the literature as a major factor that assists individuals with sobriety (McKay & Hiller-Sturmhofel (2011). The form the aftercare takes – for example group therapy, 12 step meetings or individual counselling – is not as important as the actual aftercare itself as McKay and Hiller-Sturmhofel (2011) propose that the aim of aftercare is to: a. stabilise the client, b. lower relapse rates and c. decrease the need for further formal treatment. As a result the importance of continuing with some form of treatment plan post formal treatment needs to be stressed as recovery rates are thought to "double for patients who go into continuing care" (Dennis, as cited in Alcoholism & Drug Abuse Weekly, 2007, p. 4).

Other factors they highlighted included:

Table 15: Factors contributing to sobriety, sample two (N=20)

Factors contributing to sobriety	Number of participants (n=)
Programme related components: • Going to meetings • Having a sponsor • Doing step work • Doing service	20
Motivation • Doing whatever it takes • Doing it for themselves	7
Support and family involvement	5

"We often use the analogy of a tool box and we tell our clients that the more tools they have to do a job with, the better equipped they are to do it. So too with recovery, our clients need as many positive mechanisms as possible to help them stay clean" (S. Rahme, Personal Communication, July 24, 2011).

Objective 5: **To establish how different understandings of addiction, personal variables, impulsivity, sensation seeking and perceived stress affected treatment outcomes namely relapse and the ability to maintain sobriety/abstinence.**

In order to assess whether or not different understandings of addiction, personal variables (i.e. attendance of meetings, current use of any addictive substance/behaviour) impulsivity, sensation seeking and perceived stress affect treatment outcomes namely relapse and the ability to maintain sobriety, sample one (N = 78) was divided into two groups namely:

Group A – participants who reported never having relapsed (n = 18)
Group B – participants who had reported relapsing (n = 60)

From the above it is evident that the two groups are heavily imbalanced and as such all statistical analysis reflected insignificant results with regards to the results (as will be outlined below). However caution is to be taken when interpreting the meaning of these results as the lack of statistical significance may be the result of the two group's sizes rather than a result of a genuine lack of the phenomenon's existence.

Theme 1: Understanding addiction as a disease and treatment outcomes

The disease model stresses the importance of abstinence as the 'medicine' for addiction as one participant in sample two commented "*the only reprieve for the disease of addiction is abstinence, there is no cure".* Interestingly, results below (Table 15) indicated no statistical significance (p-value=0.2664) between group A and group B regardless of whether participants from sample one understood addiction as a disease or not. This indicates that people recovering from addiction who understand addiction as a disease were not less likely to relapse than those who did not understand addiction as a disease. From this result one might infer that there appeared to be a discrepancy between intellectual knowledge and its translation into behaviour. This phenomenon can be

likened to the example that despite the fact that millions of Rands are spent annually on HIV prevention efforts and education and awareness, infection rates continue to rise as mid-year estimates for 2010 placed the number of people who are HIV positive in South Africa at 5.24 million (STATSSA, 2010). Perhaps with a greater transfer of knowledge into practice and with a profound integrated understanding of the disease model people recovering from addiction would be less likely to relapse. At this juncture the researcher acknowledges that whilst the above suggestion seems logical, it may be unlikely and perhaps a little naïve given the nature of addiction itself and the fact that it is fraught with powerful elements of denial, justification, bargaining, rationalisation, manipulation, dishonesty and ambivalence about change.

Table 16: Statistical analysis for understanding addiction as a disease and treatment outcomes, sample one (N=78)

Frequency Row Pct	Table of adddis by group	
Adddis	Group	
	No	Yes
1	14 20.90	53 79.10
2-3	4 36.36	7 63.64

Theme 2: Personal variables and treatment outcomes

With regards to personal variables it was hypothesised that factors such as: attendance of meetings; times in treatment; current use of substances and/ behaviours; frequency of cravings and exposure to trigger situations could impact on relapse and the ability to maintaining sobriety however there appeared to be no significant differences between Group A and Group B (please refer to Appendix M for a comprehensive list of statistical tests).

With regards to cravings some useful information emerged. Results suggest that while the content differed in terms of specifics that participants crave (i.e. a specific drug, food or game) the same general themes emerged. Not all participants within the specific categories crave their primary 'drug' of choice (PDOC) namely the primary reason they sought help, which seems to indicate that addictions have a propensity to interact rather than exist in separation or even in parallel. Moreover fascinatingly of the participants who stated that they craved drugs other than their PDOC, all mentioned the 'gateway drugs' (i.e. drugs that play an early role in the progression of drug use) were the object of their cravings namely alcohol, marijuana and cigarettes (Golub & Johnson, 1998; McCambridge & Strang, as cited in Choo et al., 2008). The information is presented in Table 17.

Table 17: Exposure to high risk situations and cravings, sample one (N=78)

Addiction	Participants	Exposure to high risk situations	Cravings	Object of craving
Drug(s)	n = 19	Rarely n=10 Occasionally n=9 Very often n=1	Rarely n=11 Occasionally n=8 Often n=1	- PDOC n=9 - Anything and everything n =2 - PDOC & additional behaviour e.g. pornography n=1 - Drug other than PDOC n=3 (cigarettes) - Alcohol n=3 - To escape n=2 - To act out/take a risk n=2
Alcohol	n = 12	Rarely n=3 Occasionally n=2 Often n=2	Rarely n=6 Occasionally n=2 Often n=2	- PDOC n=4 - PDOC & an additional behaviour/substance n=2 - Drug other than PDOC n=4 (cigarettes)
Drug and alcohol	n = 24	Rarely n=10 Occasionally n=9 Often n=3	Rarely n=11 Occasionally n=9 Often n=6	- Alcohol n=3 - Drugs (PDOC) n=4 - Alcohol and drugs n=5 - Specific drug n=4 (marijuana) n=1 (cigarettes) - Escape n=1 -PDOC & additional addictive behaviour n=2 (sex)
Gambling	n = 12	Rarely n=8 Occasionally n=3 Often n=1	Never n=7 Occasionally n=5 Often n=1 Very often n=1	- Thrill of winning with specific reference to the "adrenalin rush" n=6 - Specific game e.g. slot machines n=1 - To escape n=2 - Alcohol and cigarettes n=1
Eating disorders/food addictions	n = 5	Occasionally n=1 Often n=3 Very often n=1	Rarely n=1 Occasionally n=2 Often n=1 Very often n=1	- Specific foods eg. carbohydrates, sugar n=1 - To lose control n=1 - To escape n=1
Sex addiction	n = 2	Occasionally n=1 Often n=1	Occasionally n=1 Very often n=1	- Sexual release n=2 - Pornography n=1
Drugs and: Sex Alcohol and sex Self mutilation Self mutilation and eating disorder	 n = 1 n = 1 n = 1 n = 1	Rarely n=3 Occasionally n=1	Never n=4	- One of the specific addiction n=1 - More than one of the addictions n=1 - Variations of the addictions n=1

When asked about the things that make them crave, participants in sample one identified the following as the most common triggers:

- Negative emotions (n=22): feeling left out, loneliness, frustration, anger, un-fulfilment, self pity, depression, inadequacy, self consciousness, sadness, resentment, overwhelmed, pressurised, hopelessness, rejection.
- Social activities (n=14): braai's, work functions, formal events, sport events, parties, clubs, eating out.
- Sensory cues (n=14): auditory (music, specific sounds, hearing others talk about it); visually (seeing it/seeing someone use, advertisements, TV and movies); olfactory (smelling it).
- Boredom (n=9)
- Stress (n=8): difficult life stressors, job stress, marital stress, financial stress.
- Environmental cues (n=7): visiting old places associated with using.
- Euphoric recall (n=6): reminiscing about the past, romanticising and fantasising.

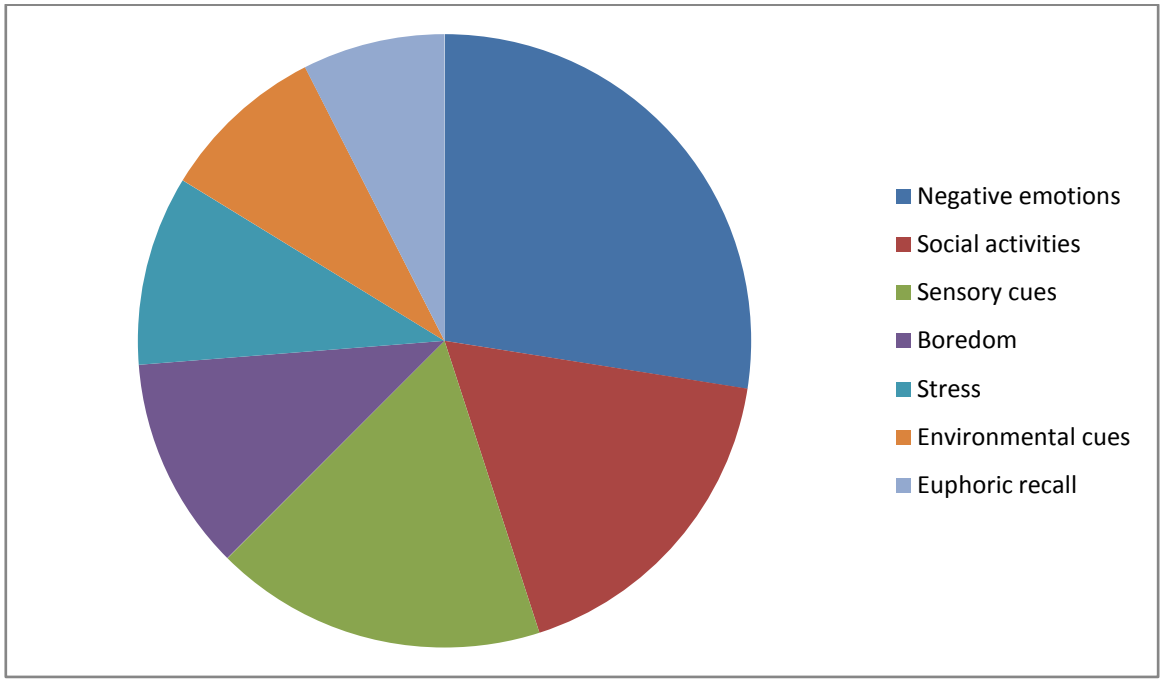

Figure 13: Triggers for craving, sample one (n=75)

When questioned about how the participants cope with cravings, participants from sample one (N=78) noted the most popular tools included:

A. Sharing it with someone i.e. talking about it (n=20)
B. Remembering how it got towards the end/ remembering specific feelings (e.g. the day after) (n=17)
C. Distraction techniques (n=15)
D. Praying (n=12)
E. Attending meetings (n=10)
F. Calling a sponsor (n=9)
G. Sitting with it (n=8)

In terms of the finding from objective three namely that 'negative affect' was identified as the biggest contributing factor of relapse by participants in sample one (n=20), it is congruent that the largest category of trigger identified by participants of the sample was that of 'negative emotions' (n=22). Further categories which were identified as triggers were those of 'environmental cues' (n=7) and 'sensory cues' (n=14) (e.g. locations where the drug was use or purchased, individuals the drug was used with, music that was playing while the drug was taken etc.). This is in line with research findings as these cues have been identified as having powerful effects on inducing craving as "the repeated pairing of these cues with the chronic use of the drug can lead to a classical conditioning of the drug's effect, so that exposure to these stimuli following abstinence produces responses reminiscent of responses to the drug itself" (Goeders, 2004, p. 33).

Within the reflexive position, it is worth mentioning that while the researcher is exceptionally familiar with the 12 step model and the language that is utilised within the 12 step programme and the within the disease model, the aim was to maintain the academic integrity and objectivity of the research (especially seeing as though a major element of this research was to examine the various manners in which addiction is understood) and as such the questionnaire was designed using terminology that is generally accepted within the academic realm of addiction theory. For example 'craving' is a term that is generally accepted to generically refer to an intense urge to 'use'. However within strict 12 step application 'craving' within a model of abstinence can be thought of implying powerlessness (step 1). As such, some participants (n=3) commented on their

questionnaires about some of the terminology that had been used in the survey and how they felt about it.

Theme 3: Impulsivity and treatment outcomes

In their explanations about addiction, participants touched on the concept of impulsivity.

For example:

- *"The desire to be free instantly of any emotion that I don't like to feel".*
- *"We act on impulse and need instant gratification".*

Table 16 indicates that most participants (n=75) had moderate levels of impulsivity, while only 3 participants scored high on the impulsivity scale. Yet again, fisher's exact test indicated that no statistical significance (p-value>0.9999) was noted between group A and group B and hence from this data we can infer that levels of impulsivity did not have an effect on treatment outcomes namely relapse and the ability to maintain sobriety and abstinence. This information is represented below.

Table 18: Statistical analysis of impulsivity and treatment outcomes, sample one (N=78)

Frequency Col Pct	Table of group by imp	
group	imp	
	71-140	141-210
No	18 100.00	0 0.00
Yes	57 95.00	3 5.00

Although no statistical significance was noted for the variable of impulsivity some interesting data emerged from an exploration of some of the items of the BIS. The table above highlighted that the majority of participants displayed moderate levels of impulsivity (n=75) whilst only three participants scored high levels of impulsivity. However the table below suggests that it is possible that individuals can display different levels of impulsivity according to different sub-traits of impulsivity for example individuals appeared to display higher levels of impulsivity with regards to

the sub-traits of cognitive impulsiveness and non-planning impulsiveness. Perhaps while it is known that high levels of impulsivity have been associated with addicted populations little is known about whether or not they have higher levels of impulsivity when it comes to cognitive, motor or non-planning impulsivity and whether or not this impacts on the ability to stay clean.

Table 19: Items of impulsivity sub-traits, sample one (N=78)

Item (Often – Always)	Impulsivity sub-trait	Number of participants	Percentage
I often have 'outside' thoughts when I am thinking (n=75)	Cognitive impulsiveness	30	40%
I have racing thoughts (n=78)	Cognitive impulsiveness	43	55%
I act on impulse (n=73)	Motor impulsiveness	28	38%
I act on the spur of the moment (n=78)	Motor impulsiveness	27	35%
Item (Occasionally – Never)			
I save regularly (n=78)	Non-planning impulsiveness	52	67%
I am future orientated (n=75)	Non-planning impulsiveness	32	43%

Theme 4: Sensation seeking and treatment outcomes

Sensation seeking was measured according to four main constructs namely: thrill and adventure seeking (TAS), disinhibition (DIS), experience seeking (ES) and boredom susceptibility (BS) (Zuckerman, 1994). When describing their experiences participants conveyed:

- *Gambling –the inability to control the thrill and challenge the machine gave (TAS).*
- *I can't stop after one – I go to extremes with everything (ES).*
- *I have been an "extremist" for as long as I can remember, nothing is in moderation (ES).*

Investigation of the constructs of sensation seeking revealed that the category with the highest scores was that of the TAS category specifically:

- I would like to ride or drive a motorbike (n= 57).
- I like to explore a strange city or section of town by myself even it mean getting lost (n=56).
- I sometime like o do things that are a little dangerous (n=47).
- I would like to try parachute jumping (n=43).

It is also fascinating to link a finding from Table 16 with the concept of sensation seeking. Specifically within the sub-group of gambling, participants (n=6) either mentioned the "rush" or the "adrenalin rush" as the object of their craving and Coventry and Brown (1993) remark that in a survey examining the reasons behind why people gamble, excitement and arousal were cited as the main factors. Furthermore, it is possible that drug users experience a similar 'rush' and element of danger when purchasing their drug(s) and as such it is understandable why TAS emerged as the most popular category within the construct of sensation seeking.

With regards to the results on sensation seeking and treatment outcomes between group A and group B, data indicated no statistical significance (p=0.8728) suggesting that levels of sensation seeking did not impact on relapse.

Table 20: Statistical analysis of sensation seeking and treatment outcomes, sample one (n=76)

Frequency Col Pct	Table of group by senseek		
group	Senseek		
	0-5	6-10	11-15
No	1 5.88	15 88.24	1 5.88
Yes	5 8.47	46 77.97	8 13.56

Theme 5: Perceived stress and treatment outcomes

A multitude of research has been conducted examining the effects of stress on relapse. Stewart (2003, p. 1) notes that "craving for 'highs' or euphoric experiences or a return to drug use" is a familiar response to stressful life events and experiences amongst addicted persons. In a study conducted by McKee at al., (2011) on the effects of stress and relapse to cigarettes, it was discovered that stress significantly increased craving for tobacco which in turn undermined people's abilities to resist smoking. Echoing this, participants in this study identified stress as one of the main categories of triggers (n=8) as well as one of the contributing factors to relapse (n=13).

At first glance, results appear to illustrate that participants who have not relapsed (n=18) display lower levels of perceived stress, however no statistical significance (p-value=0.1624) was noted between group A and group B regarding their perceived levels of stress and relapse which is most likely the consequence of modest sample size.

Table 21: Statistical analysis of perceived stress and treatment outcomes, sample one (N=78)

Frequency Col Pct	Table of group by stress		
group	stress		
	0-9	10-18	19-28
No	2 11.11	14 77.78	2 11.11
Yes	1 1.67	53 88.33	6 10.00

4. CONCLUSION

The above chapter has outlined that understanding and treating addiction is complicated. While the disease model of addiction is certainly the basis from which service users and service providers depart, the manner in which it has been applied and understood is not universal. Relapse is an occurrence which cannot be ignored as it is a reality of this chronic illness. Cross addiction and multiple dependency are intractably linked to addiction and as such they are areas that need to be covered throughout the assessment and treatment process. Variables such as impulsivity, sensation seeking and perceived stress did not impact on relapse and the ability to maintain sobriety. However seeing as though relapse is such an issue in the recovery from addiction, obtaining a sample of users who had never relapsed was difficult and subsequently this finding is not an 'absolute' reflection of the difference in individual variables between 'relapse' and 'non-relapse' groups.

CHAPTER 7

MAIN FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

1. INTRODUCTION

By now the reader should have an extensive understanding of the theoretical framework underpinning the study; the methodology that guided the project and the results that emerged from the data. This chapter will discuss the key findings of the study and the conclusions that can be drawn from these results and finally it will outline recommendations for practice, theory and future research.

2. MAIN FINDINGS AND CONCLUSIONS

The overall aim of this research was twofold: firstly, it intended to investigate how people recovering from addiction and how people working with addiction understand addiction and secondly, it planned to explore their perceptions' about the main factors that contribute to relapse and the ability to abstain. Seventy eight questionnaires, twenty interviews, statistical analysis and extensive thematic content analysis have divulged the following:

- While the disease model of addiction appeared to be the most common understanding of addiction, disparity existed as to whether or not all addicts have the same disease. This suggests that there is no standard, uniform way in which the disease model is interpreted and understood.
- While people can become addicted to anything that has the ability to alter mood, and the process and outcome is extremely similar amongst addictions, specific knowledge is needed of the details inherent in each individual addiction. This suggests that while it is useful to view Addiction as the disease, the treatment of its symptoms (i.e. the various addictions) cannot be a 'blanket' approach as one participant stated: *"yes there are similarities but that doesn't mean the treatment is the same … okay it's like 'let's just give everyone a headache*

pill for everything'". Hence while Addiction can be viewed as a disease which takes many forms and many of the addictions can emerge at different time (cross addiction); co-exist (multiple addiction) and/or interact, specific training and knowledge is crucial with regards to each of the 'addictions'.

- Despite the fact that the disease model is the most predominant understanding of addiction, and in its purest form promotes complete abstinence from all mind and mood altering substances and behaviours, most participants currently used some form of substance and/or behaviour. Once again, this is fascinating to note and one could ponder as to why this is and furthermore if their current use of the substance and/or behaviour contributes to relapse.
- Relapse is a reality in the process of recovery with 76% of participants having experienced it.
- Factors such as cross addiction, resistance to change and issues relating to the maintenance of change were identified as issues that contribute to relapse, and factors such as aftercare, following the 12 step programme and support were identified as the main aspects that contribute to sobriety. These areas should therefore be noted and sufficiently covered throughout treatment.
- No statistical significance was noted between participants who had relapsed as opposed to those who had not for variables of sensation seeking, impulsivity and perceived stress which may have been as a result of small sample size. The lack of statistical significance is not necessarily reflective of an authentic lack of difference between variables of those who have and those who have not relapsed. However it is precisely because relapse is an almost certainty in addictive populations that a significantly large enough sample group of those who have never relapsed was difficult to come by.

3. SUMMARY OF FINDINGS

Results indicated that the majority of recovering addicts and professionals working with addiction understand addiction as a disease. However, discrepancy was apparent with regards to whether or not all recovering addicts have the same disease and subsequently whether all addictions can be treated in the same manner. The above result suggested that there was no standardised, uniform way in which the disease model is understood and interpreted. Factors such as cross addiction, resistance to change and issues relating to the maintenance of change were identified as issues that contribute to relapse while factors such as aftercare, following the 12 step programme and support

were identified as the main aspects that contribute to sobriety. No statistical significance was noted between participants who had relapsed as opposed to those who had not for variables of sensation seeking, impulsivity and perceived stress which may have been as a result of small sample size. Deeper understanding of the disease model together with broader application of it, and a focus on appropriate training and more comprehensive assessment could perhaps see a reduction in the high rates of relapse and recidivism more commonly known as the 'revolving door syndrome'.

4. RECOMMENDATIONS

4.1. RECOMMENDATIONS FOR THEORY

As our understanding of addiction develops and evolves, theoretical teaching will need to be reflective of such expansions. Technological advancement, brain scanning techniques and theoretical development are sure to bring with them new manners in which to understand addictive processes and the similarities in which all addictive behaviours share. Broader application of Addiction as *the* disease can shed light on many of the disorders and pathologies found in the DSM-IV-TR which in turn will inform the treatment of various ailments that exist within the human experience. Moreover if people's understandings of Addiction are reflective of a more inclusive disease, their suffering and struggle with the ways in which they manifest various symptoms can be better managed as they come to view their disease as One rather than as individuals who suffer from multiple disorders and illnesses.

4.2. RECOMMENDATIONS FOR PRACTICE

There is currently a significant cleavage between theory and practice (i.e. between recommended practices and existing practices) in the landscape of South African treatment. Areas that require attention include:

4.2.1. Training and accreditation

- Currently in South Africa, many rehabilitation centres utilise the skills of lay counsellors commonly referred to as 'addiction counsellors', however no formal programme or course exists with regards to their academic training. Furthermore, there is no formal association

overseeing the practice of these counsellors which in effect means that they are not ethically accountable to any professional governing board or association. Given that these counsellors work with an exceptionally vulnerable population, this is a topic that demands immediate attention and action.

4.2.2. Assessment

- In order to reduce the rates of recidivism, clinicians need to be extensively trained in the area of assessment. By reducing this 'revolving door syndrome' health care costs would also be reduced.
- One way for professionals to develop their skills at identifying, recognising and treating co-occurring addictions is to utilise and incorporate a variety of screening tools and interviewing methods in their treatment plans (the text *Hidden Addictions* by Freimuth (2005) and the Shorter PROMIS Questionnaire speak to this). As addictions have a tendency to manifest under a variety of circumstances, it is not sufficient to administer these solely at the assessment level of treatment and these resources should be included throughout the treatment process (Freimuth et al., 2008).

4.2.3. Treatment

- Professionals need to be encouraged to disregard their reliance on pure biological aetiological explanations and accept that multiple aspects are important and interrelated in various features of the development, maintenance and treatment of addiction (Hitzeroth & Kramer, 2010).
- One needs to be mindful that commonalities across all kinds of dependencies does not rule out important differences among them and one kind of treatment approach will not always work effectively (Bradley, 1990). Clients gain the most when service providers are prepared to use and test "whatever works well, regardless of ideology" (Bradley, 1990, p. 1431) and because so many complicating factors are involved in the treatment of addiction formal treatment (i.e. rehabilitation) should be conceptualised as a necessity rather than as optional (Hitzeroth & Kramer, 2010).
- Perhaps with broader application of the disease model and a deep appreciation for how many factors contribute to relapse, clients would be better equipped to treat their diseases.

Understanding how multiple dependency, cross addiction, changes that occur in the brain as a result of addiction and triggers and cueing are critical issues that clients need to be informed about when they begin a process of recovery.

4.3. RECOMMENDATIONS FOR FUTURE RESEARCH

Based on this project's findings, coupled with the array of complex topics involved in the treatment of addiction, the following recommendations are made for future research:

A. Considering everything that is involved in the development, maintenance and treatment of an addiction, it is worth acknowledging the tremendous contemplation that must go into the consideration of giving up an addiction (Marks, 1990). With regards to relevance for treatment, it is unwise for practitioners to blindly believe that addicts who say they want to get clean and who will engage in the treatment process mean that they want to get clean (Bradley, 1990).

- Do treatment centres assist addicts contemplate and then commit themselves to change?
- Is pre-treatment motivation a predictor of treatment outcome?

B. N.A and other 12-step fellowships are based on total commitment to values of recovery and strict abstinence. They have helped assist hundreds of people find recovery without formal treatment.

- What principles in self-help organisations and groups are irrelevant to success and which are essential?

C. We have no universally accepted terms for addiction, dependence, craving (Kelly, 2004).

- Which constructs demand broader or narrower definitions and what outcomes are hoped for in each of the proposed classifications?

D. While this research has argued that substance based addiction and behavioural based addictions share a multitude of common elements in aetiology, treatment and maintenance, it has also acknowledged that there are facets specific to each one.

- At what point is shared pathophysiology and common symptom clusters enough to warrant a common diagnostic label?

E. The choice of language a profession employs, impacts on the way in which patients perceive themselves, how they are perceived by others and thus by how others treat them. When professionals refer to people affected by addiction as 'substance abusers' or as 'addicts' rather than "an individual suffering from a SUD" we may unintentionally increase the shame and stigma associated with substance use (Kelly, 2004, p. 85). Furthermore, from a policy standpoint, when it comes to healthcare budgeting, addiction treatment has to compete with many other kinds of disorders and health related and/or social related issues for government financing. If professionals refer to their patients as "substance abusers" or "addicts" it may exacerbate a felt need for punishment/correction which results "in these problems being viewed less sympathetically in terms of fiscal allocation in a competitive healthcare environment" (Kelly, 2004, p. 85).

- Does the language employed when referring to addicted people impact on the shame and stigma associated with having a SUD and does this in turn make it more difficult for such people to access treatment?

F. Bandura's social learning theory, specifically his theory of self-efficacy, has been used countless times to explain the reasons behind why some people do or do not do certain things. People with feelings of self-efficacy often feel that they have control over what they are doing (Bandura, as cited in Eisenman, 2004). Contrastingly, people who feel dependent or addicted to things that are outside of themselves often do not feel in control (Eisenman, 2004) and frequently this lack-of-control feeling is generalised to other areas in a person's life that on the surface seem unrelated.

- Does learning self-efficacy in one area lead to generalised self-efficacy in other areas?
- Does making improvements to one's life in one area lead to generalised improvements in other areas?

G. Because dual diagnosis plays such a large role in the treatment of SUDs and failure to skilfully diagnose a co-morbid condition can impact significantly on treatment outcomes (Hilarski & Wodarski, 2001) it would be useful to examine:

- Do psychiatric health care professionals incorporate substance use information in their assessments and interviews? How have they been trained to recognise signs and symptoms of chemical dependency?

- Do professionals working in the substance abuse field incorporate psychiatric information in their assessments and interviews? How have they been trained to recognise signs and symptoms of psychiatric problems?

5. CONCLUDING COMMENT

Due to the multifaceted nature of addiction and the likelihood that people almost always present with more than a singular dependency, it is unfortunately, not uncommon for a person to arrest one addiction to find that life becomes unmanageable once more with another behaviour where all that changes is the name of the addiction and once again the "process of desperation, unhappiness, denial, and the need for recovery begins once more" (Taber, 2005). This unquestionably highlights the possibility that the disease model's pure message may have been distorted as various 12 step fellowships represent their specific dependency as a disease rather than symptoms of one massive disease: the disease of Addiction. If this is the case, it is no wonder that addictions are compared and contrasted according to severity rather than seen them as differing expressions of the disease of Addiction (Garrun, 2009).

Perhaps the disease model of addiction demands broader application. For as long as people substitute one addiction for another, they will become "different but not better", perhaps professionals need to be challenged to consider complex topics and questions such as: 'What is the real problem underlying multiple dependencies?' and 'What are the common elements in all of them?' (Taber, 2005). Professionals and recovering addicts alike need to begin to question what elements all addictions have in common and how these can be addressed so that separate addictions can be seen as symptoms of a much "deeper, profound, and underlying disorder". Perhaps with a deeper appreciation of the disease model, relapse could be addressed more effectively as substitute addictions undermine the "resolve to abstain from the primary problem" (Taber, 2005).

When one considers how profoundly complicated addiction is and how many areas need to be addressed in treatment, it is absolutely mind-blowing that so many people actually find recovery and accumulate years and years of sobriety. Despite the colossal challenges that are inherent in the recovery process – cross addiction, multiple dependency, resistance to change, pathological family dynamics, craving, triggers, relapse, dishonesty, manipulation and the nature of the disease itself –

perhaps there is something to be said about the 'gift' of desperation and the strength of the human spirit when one commits to change.

"Do not go gentle into that good night, rage rage against the dying of the light".

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APPENDICES

APPENDIX A: Self developed questionnaire exploring service users' understandings of addiction, sensation seeking, impulsivity, perceived stress and relapse

APPENDIX B: Semi-structured interview schedule

APPENDIX C: Rationale for inclusion of items in the semi-structured interview schedule

Theme: Participant Information (demographic info)

Items: 1; 2; 3

Rationale:

Descriptive statistics literally describe a set of data (Leedy & Ormrod, 2010). These questions were included in order to describe the characteristics of the sample such as race, gender, age, professional title and years of practical experience.

Theme: Understanding of addiction (disease model)

Items: 6; 7; 8; 10; 11; 13; 14; 15; 16; 17; 18; 19; 20; 21; 22

Rationale:

At its theoretical base, the disease model purports that drug addiction is a chronic, relapsing disease (Leshner, 1997). The addict is characterized as having a complete lack of control over his/her addiction and continued use causes changes to the central nervous system that lead to tolerance, dependence, craving and relapse (Cami & Farre, 2003).

These questions were thus incorporated in an effort to:

1. examine the manners in which professionals conceptualised addiction
2. establish if variations of understanding existed
3. determine if their understandings were reflective of the disease model.

Theme: Multiple dependency

Items: 13; 14; 15; 16; 17; 18; 19; 20; 21

Rationale:

According to Taber (2005) there is one condition underlying all addictions in what he refers to as the Addictive Response Pattern. This theory purports that addiction is the primary disease which manifests in a variety of manners and if treatment is specilaised so as to address each addiction individually, the fundamental issue is missed which in turn increases the likelihood for substitution of addictions or results in overlooked addictions which delays the chance for successful recovery.

These questions were therefore included in order to establish how professionals working in the field conceptualise the notion of multiple dependency and the implications this carries in the treatment of them.

Theme: Treatment approach

Items: 10; 12; 13; 14; 24; 25; 26; 27; 29; 31

Rationale:

The manner in which drug addiction has been understood has undergone several intellectual transformations throughout history. For centuries, drug addiction was seen as a character defect that could be treated with incarceration and punishment as drug addicts were seen as social degenerates who lacked will power (Committee on Opportunities in Drug Abuse Research, 1996). However explanations accounting for addiction slowly moved away from this strong moral viewpoint and by the late 19th Century the disease model as an approach to addiction emerged and currently it is the most contemporary approach to addiction treatment.

The importance of appropriate and effective treatment bears relevance in a practical sense as the field of addiction treatment is one that requires a specific knowledge base and skill set. Recently, the South African Council for Social Services Professions (SACSSP) moved to recognise this and is exploring the possibility of making this field of practice a specialised one.

The reason these questions were included was to:

1. determine the philosophy's upon which the treatment centres are based
2. explore the way in which addiction is understood at the centres (and if it differed from the professionals individual understanding)
3. ascertain which approaches were most prominent in the treatment centres involved in the study
4. discover what training treatment centres require of their staff
5. establish what changes – if any – are needed in the field

Theme: Relapse

Items: 22; 23

Rationale:

Litman (as cited in Allsop, Saunders, & Phillips, 2000) notes that in the treatment of alcohol dependence, it is unfortunate but high relapse rates are the norm, not the exception. In addition relapse is a major characteristic of drug addiction disorders and thus it remains the primary problem for treatment (Stewart, 2003).

Recent models of addiction propose that brain changes occur during the development of addiction that explain the "persistent vulnerability to relapse long after drug-taking has ceased [and] addiction is presented as a cycle of spiralling dysregulation of brain reward systems that progressively increases, resulting in the compulsive use and loss of control over drug-taking" (Koob and Le Maol, 2001, p.97). Hence much research has indicated that relapse to drugs and alcohol occurs due a number of factors mainly: re-exposure to the drug itself, exposure to drug-related cues and by exposure to stress. The questions on relapse were included because it is often a major source of focus of treatment efforts. In addition, the researcher wished to explore the factors that professionals believe contribute to relapse and the ability to remain abstinent.

Theme: Educational background and training

Items: 4; 7; 8; 9; 14; 28

Rationale:

There is significant cleavage in the international practice field of addiction between professionals who are formally trained (i.e. tertiary education) and those who are not formally trained but who are usually recovering addicts who work in the field (Scott, 2000). These questions were included to explore if this was also evident in South Africa.

Theme: Self awareness

Items: 5; 9; 30

Rationale:

A therapists own feelings, fears, levels of burnout and stress are all issues that contribute to effective treatment (Kottler, 1998). Furthermore It is crucial that therapists explore how any unresolved personal issues can feed into the therapeutic relationship and as professionals need to be aware of how issues such as transference and countertransference are projected (Corey & Corey, 2008). Consequently these items were included in order to explore the above factors that contribute to self-awareness.

APPENDIX D: Ethics clearance certificate

APPENDIX E: Permission letters from 12 step fellowships to attend meetings in order to recruit participants

APPENDIX F: Participant information sheet (Sample one)

APPENDIX G: Contact details to return questionnaires

If you wish to participate in the study, once you have completed the questionnaire there are a few ways in which you can get it back to me:

1. You are more than welcome to scan it and e mail it back to me or to fax it to me on 011 483 2158. Please note that if you e mail it back to me or if you fax it to me your anonymity cannot be protected. However once I have printed it out it will be added to a box of completed anonymous questionnaires. No identifying information is asked of you so as to protect anonymity as much as possible.

2. If you are uncomfortable e mailing it back to me, you are welcome to post the completed form back to me at P O Box 348 Gallo Manor Sandton 2052. Please address it to: CANDICE GARRUN RESEARCH PROJECT.

3. If neither of these options are viable I am happy to come and meet you, give you the questionnaire and wait while you complete it. I will bring the box with me for you to add your questionnaire to so as to protect your anonymity. Just let me know a date and time that is convenient for you.

Once again thanks so much for taking the time to consider participating.

Kind regards

Candice Garrun

APPENDIX H: Scoring schedule

SECTION B: PERSONAL PREFERENCES

ITEM	A	B
1	1	0
2	1	0
3	0	1
4	0	1
5	0	1
6	0	1
7	0	1
8	1	0
9	0	1
10	1	0
11	0	1
12	1	0
13	1	0
14	1	0
15	1	0

The higher the score the higher the level of sensation seeking:

0 – 5 = low sensation seeking

6 – 10 = moderate sensation seeking

11 – 15 = high sensation seeking

SECTION D: BARRAT IMPULSIVENESS SCALE

The BAS consists of 6 first order factors and 3 second order factors. A total score is obtained by summing the first or second order factors. The higher the score the higher the level of impulsivity.

The items are scored on a 7 point scale: Never = 1; Almost never = 2; Occasionally = 3; Fairly often = 4; Often = 5; Almost always = 6 Always = 7

FIRST ORDER FACTORS ITEM CONTENT

FACTOR	ITEM
Attention (5 items)	5, 9*, 11, 20*, 28
Motor (7 items)	2,3,4, 17, 19, 22, 25
Self-control (6 items)	1*, 7*, 8*, 12*, 13*, 14
Cognitive complexity (5 items)	10*, 15*, 18, 27, 29*
Perseverance (4 items)	16, 21, 23, 30*
Cognitive instability (3 items)	6, 24, 26

* = REVERSE ITEM SCORING

SECOND ORDER FACTOR ITEM CONTENT

FACTOR	ITEM
Attentional impulsiveness (8 items)	6,5,9*, 11, 20*, 24, 26, 28
Motor impulsiveness (11 items)	2,3,4,16,17,19,21,22,23,25,30*
Non-planning impulsiveness (11 items)	1*, 7*, 8*, 10*, 12*, 13*, 14, 15*, 18, 27, 29*

* = REVERSE ITEM SCORING

0 – 70 = low impulsivity

71 – 140 = moderate impulsivity

141 – 210 = high impulsivity

SECTION D: PERCIEVED STRESS

The items are scored on a 7 point scale: Never = 1; Almost never = 2; Occasionally = 3; Fairly often = 4; Often = 5; Almost always = 6 Always = 7

- Items 1, 2 & 5 are scored normally
- Items 3 & 4 are reverse scored

0 – 11 = low perception of stress

12 – 23 = moderate perception of stress

24 – 35 = high perception of stress

APPENDIX I: Permission letters from rehabilitation centres to contact staff in order to recruit participants

APPENDIX J: Participant information sheet (Sample two)

APPENDIX K: Consent form (sample two)

APPENDIX L: Consent to audiotape

APPENDIX M: Statistical analyses