CHANGES IN CLIENT FUNCTIONING DURING TREATMENT AT A SECONDARY STAGE ADDICTION FACILITY: AN ANALYSIS OF CASE RECORDS

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Declaration

This work has not been previously submitted in whole, or in part, for the award of any degree. It is my own work. Each significant contribution to, and quotation in, this dissertation from the work, or works, of other people has been attributed, and has been cited and referenced.

Signature:

Date:

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Abstract

Background and Aims: Recent findings indicate that South Africa and, in particular, the Western Cape have some of the highest prevalences of substance use disorders and substance related problems in the world. Further, in the past decade, the prevalence of poly-substance use in South Africa has grown considerably. The high prevalence of substance use disorders and related problems in the Western Cape relative to an already significant national problem highlights the importance of local research on the effective treatment of substance use disorders. While there are outcome studies supporting the effectiveness of various addiction treatment models, and much is known about the various stages of intervention at addiction treatment facilities, little is known about the processes and mechanisms of addiction treatment and recovery. Various authors have proposed that researching patient progress through treatment is essential to growing our knowledge, improving treatments and generalising them to other settings. This study aimed to investigate client case files at a secondary stage addiction treatment facility in Cape Town to explore whether there were any discernable patterns in clients' functioning across different stages of treatment. **Method:** The research took the form of a case study that used thematic analysis to discern patterns in qualitative data regarding reported observations of client's behaviors, cognitions, affects and physical states at different stages of addiction treatment. Comparisons were also made between the observations of clients with Axis II personality traits and those without Axis II personality traits, and between clients recovering from stimulant addiction and those recovering from non-stimulant addiction. The participants comprised a sample of 33 clients of a secondary stage addiction treatment facility in Cape Town, South Africa. **Conclusions:** Analysis yielded a number of possible patterns in the distribution of themes across time-points, some of which resonated with previous research, particularly regarding second order change, but also regarding Protracted Withdrawal Syndrome and 'The Wall'. The comparative analysis indicated that there might be both similarities and differences between subgroups of clients that may shed light on the use of matching hypotheses in the context of addiction treatment.

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CHAPTER ONE: INTRODUCTION

During an address in 2009, Helen Zille stated her opinion that the problem of substance abuse in the Western Cape and South Africa as a whole was a problem more pressing than HIV/AIDS, and that addressing this ought to be a public health priority. Indeed, prevalence data indicate that South Africa has high rates of substance abuse compared to many other countries.

In 2010 the World Health Organisation (WHO) launched the *ATLAS on Substance Use (2010) - Resources for the prevention and treatment of substance use disorders.* It contains information collected from 147 countries, including South Africa, representing 88% of the world's population (World Health Organisation, 2011). According to the ATLAS, in 2004, 7.6% of the global burden of disease (time of life lost to pre-mature death or ill-health) in men. In women in was 1.4%.

The highest prevalence rates of alcohol use disorders as defined by the DSM IV-TR and ICD-10 are to be found in parts of Eastern and Central Europe (up to 16%), in the Americas[1] (up to 10%), in South East Asia (up to 10%) and in some countries in the Western Pacific (up to 13%) (2010). WHO claims that there is a gap in knowledge about specific illicit drug use disorders regionally and globally, which it believes may be due to a combination of differences in the understanding of and willingness to report on drug use in surveys.

In another survey, between 2001-2003, WHO conducted interviews with 60463 individuals across 14 countries in the Americas, Europe, the Middle East, Africa and Asia, using the WMH-CIDI, a structured psychiatric diagnostic interview, to assess the prevalence, severity and unmet need for treatment of Mental Disorders (World Mental Health Survey Consortium, 2004). Substance use disorders, which included both alcohol and illicit drug use, were found to be consistently less prevalent than other mental disorders like anxiety disorders and mood disorders. Substance use disorders were found to have a 12-month point prevalence of between 0.1% and 6.4%, with the Ukraine having the highest prevalence at 6.4% (World Mental Health

[1] The Americas in this instance include the United States, Canada, Mexico and several South American countries.

Survey Consortium, 2004). The global average point prevalence of substance use disorders across all counties sampled was 1.92%. The lower numbers in this survey relative to the ATLAS survey reflects the fact that the global prevalence rates of drug use disorders are estimated to be far lower than those for alcohol use disorders at 0-3% as against 0-16% (World Health Organisation, 2010). WHO estimates that global illicit drug use prevalence rates are highest in parts of the Americas, certain countries in Africa, the Eastern Mediterranean, Europe and the Western Pacific (World Health Organisation, 2010).

South Africa has one of the highest substance use, substance abuse and substance dependence rates in the world. Studies have reported that as many as 13% of South Africans suffer from untreated substance use disorders which, amongst other things, places a great burden on the legal and health care sectors (Myers, Louw, & Pasche, 2010) and is considerable next to an estimated global maximum prevalence of 16% (World Health Organisation, 2010). Deputy Trade and Industry Minister Elizabeth Thabethe announced on the 5th September 2011 that alcohol abuse costs the South African economy R9 billion per year through absenteeism, poor productivity, high job turnover, interpersonal conflict, injuries and damage to property (Sunday Tribune, 2011).

Furthermore, poly-substance use has become prevalent in South Africa in the last decade, especially in the light of the growing prevalence of methamphetamine (MA) or 'Tik' (Harker, N., Kader, R., Myers, B., Fakier, N., Parry, C., & Flisher, A. J., 2010). Drugs like heroin, Mandrax and cannabis, which have a sedative effect, are used to counter-act the effects of, or 'come down' from, MA, which is a powerful stimulant (Harker et al., 2010).

The South African Stress and Health Study (SASH), surveying 12-month prevalences of DSM-IV disorders using the WMH-CIDI, indicated that substance use disorders were the second most prevalent category of mental disorders in the country after anxiety disorders (Williams, D. R., Herman, A., Stein, D., Heeringa, S. G., Jackson, P. B., Moomal, H., et al., (2008). They were also the most prevalent of disorders classified as serious, with alcohol dependence comprising 94.8%, and drug dependence 81.8%, of such disorders (Williams et al., 2008). This stands in contrast

to the global study where substance use disorders were amongst the least prevalent categories of disorder. Following global trends, South African males were found to be at higher risk for substance use disorders than females and the younger cohorts were at higher risk than the older cohorts (Williams et al., 2008).

In terms of lifetime prevalences, at 11.4%, alcohol abuse was the most prevalent lifetime mental disorder in South Africa and at 13.3% substance use disorders were the most prevalent class of disorder (Stein, D. J., Seedat, S., Herman, A., Moomal, H., Heeringa, S., Kessler, R., et al., 2008). Drug dependence was found to be rising, especially amongst the youth (Stein et al., 2008). This mirrors the rising prevalence of substance use disorders as a global trend (World Mental Health Survey Consortium, 2004). Substance use disorders in South Africa were found to have an early average age of onset (21 years) when compared to many other countries (Stein et al., 2008), although average ages of onset for such countries were not cited.

The SASH study estimated that the prevalence of substance abuse in South Africa is at least twice that of other WHO World Mental Health Survey countries (Williams et al., 2008). Such results highlight the importance of local research on substance use treatment. However, in comparing South African and international prevalences, it is important to note that, although the CIDI 3.0 was used in twenty countries around the world including in the study in South Africa, it has not been validated for use in South Africa (Williams et al., 2008).

Within South Africa, the Western Cape has the highest 12-month and lifetime prevalence for alcohol use, and the highest lifetime and second highest 12-month prevalence of substance use disorder (Harker et al., 2010). The Western Cape also has the highest rates of alcohol related trauma and deaths, and the highest rate of arrestees intoxicated on illicit drugs in the country (Harker et al., 2010). The Cape Town Metropole has a higher prevalence of risky drinking and alcohol or drug related traumatic injuries and arrests than other region in South Africa (Myers, Louw, & Fakier, 2008).

The prevalence of Fetal Alcohol Spectrum Disorders (FASD) in the Western Cape is one of the highest in the world, with some communities having rates as high as 8.9%

(May, P., Gossage, P., Marais, A.S., Adnams, C., Hoyme, H., Jones, K., et al. 2007). This is extremely high considering that a series of global studies sourced in 1995 showed an average across studies of 1.4 cases of FASD per 1000 or 0.14% (May & Gossage, 2011).

There has been a dramatic increase in the number of MA users in the treatment population in the Western Cape from 6.3% in 2002 to 49% in 2007 (Harker et al., 2010). MA abuse carries a large burden of risk, including sexual risk, mental health problems and violence (Harker et al., 2010). As mentioned, MA use is correlated with the use of other drugs, like heroin which further exacerbates the risk of HIV and Hepatitis C already inherent in the sexual risk associated with MA use alone (Harker et al., 2010).

The high prevalence of substance use disorders and related problems in the Western Cape relative to an already significant national problem highlights the importance of local research on the effective treatment of substance use disorders.

There is, however, a need to understand more about addiction treatment. While there are outcome studies supporting the effectiveness of addiction treatment models like the Minnesota Model and Alcoholics Anonymous, De Leon (1993) points out that no theory of recovery has been sufficiently researched; the literature on the subject remains thin. Although much is known about the various stages of intervention at addiction treatment facilities, little is known about the processes and mechanisms of addiction treatment and recovery, that is the intrapsychic, physiological, cognitive and emotional transitions the recovering addict might go through. Various authors (to be discussed in the next chapter) have highlighted the limits to our understanding of the processes that underlie effective addiction treatment, and have proposed that researching patient progress through treatment is essential to building this understanding, improving treatments, and generalizing treatments to new settings. It is this that informs and motivates the current study.

1.1 Research Aims

The current study aimed to systematically investigate client case files at a secondary stage addiction treatment facility in Cape Town to explore whether there were any

discernable patterns in clients' functioning across different stages of treatment that might inform an understanding, or further study, of the processes underlying addiction treatment. The study aimed specifically to identify possible patterns in the frequency of reported observations regarding client's behaviors, cognitions, affects and physical states at different stages of secondary stage addiction treatment. It further aimed to compare such patterns between clients with Axis II personality traits and clients without Axis II personality traits, and to make a similar comparison between clients recovering from stimulant addiction and clients recovering from non-stimulant addiction.

1.2 Dissertation Structure

This dissertation comprises five chapters. Chapter One has introduced the topic, rationale and aims of the study. Chapter Two first reviews literature defining addiction and outlining evidence based approaches to addiction treatment, and then reviews literature on the process of addiction treatment. Chapter Three describes methodology, looking at the research design, the setting, the participants, and data analysis, and then explores some ethical considerations. Chapter Four describes the analysis, and presents and discusses the main findings. Chapter Five summarises these findings and integrates them with the literature, offers some tentative conclusions, and then considers limitations of the study and suggestions for future research.

CHAPTER TWO: LITERATURE REVIEW

The aim of this literature view is firstly to contextualise this study within the field of addiction treatment and then to look at what has been covered in the literature regarding the process of addiction treatment. In terms of the context of addiction treatment, the review will cover definitions of addiction and evidence based treatment models for addiction. With regard to the process of addiction treatment, studies of treatment processes and of patient progress and change through treatment will be reviewed.

2.1 Definitions of Addiction

There are several definitions of addiction, and there are also a number of disorders that, although not defined as addictions, are treated as addictions within the Minnesota Model[2] globally. There remains disagreement amongst professionals, disciplines and organisations regarding how to define addiction (McNeece & DiNitto, 2005). Addiction has traditionally been seen as involving substance use, but there are now also several "behavioral addictions" recognised in the addiction literature; behavioral disorders that are treated in addiction treatment centres around the world, for example compulsive gambling and compulsive sexual behavior (Fisher & Roget, 2009). There are also programmes within addiction treatment centres and 12-step support groups for a construct known as co-dependency, which entails certain personality and relational traits.

Co-dependents were historically identified as the counterparts to addicts (the spouse for example), but co-dependency is now seen as an "illness" or syndrome in its own right and co-dependents are seen as having several things in common with the "alcoholic or addict personality" (Fisher & Roget, 2009). Although the term is widely used, its definition remains vague, but includes various dysfunctional behaviors associated with the enabling and accommodation of a chemically dependent person or addict (McNeece & DiNitto, 2005).

The definitions of addiction as outlined by the DSM IV-TR, the WHO/ICD 10 and the American Society of Addiction Medicine will be compared and contrasted below.

[2] The Minnesota Model will be discussed in detail shortly.

2.1.1 DSM IV-TR

The American Psychiatric Association (APA) (2000) does not list addiction as a diagnostic category per se, but has several entries under the category *Substance Use Disorders*. The DSM IV-TR (APA, 2000, p. 197) lists the following diagnostic criteria for Substance Dependence:

> A maladaptive pattern of substance use, leading to clinically significant impairment or distress, as manifested by three (or more) of the following, occurring at any time in the same 12-month period:
>
> 1. Tolerance.
> 2. Withdrawal.
> 3. The substance is often taken in larger amounts or over a longer period than was intended.
> 4. There is a persistent desire or unsuccessful efforts to cut down or control substance use.
> 5. A great deal of time is spent in activities necessary to obtain the substance.
> 6. Important social, occupational, or recreational activities are given up or reduced.
> 7. The substance use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the substance.

The DSM IV-TR (APA, 2000, p. 199) also lists the following diagnostic criteria for Substance Abuse:

> A. A maladaptive pattern of substance use leading to clinically significant impairment or distress, as manifested by one (or more) of the following, occurring within a 12- month period:
>
> 1. Recurrent substance use resulting in a failure to fulfill major role obligations at work, school, or home (e.g., repeated absences or poor work performance related to substance use; substance-related absences. suspensions, or expulsions from school; neglect of children or household).
> 2. Recurrent substance use in situations in which it is physically hazardous (e.g.• driving an automobile or operating a machine when impaired by substance use)
> 3. Recurrent substance-related legal problems (e.g., arrests for substance

related disorderly conduct).

4. Continued substance use despite having persistent or recurrent social or inter-personal problems caused or exacerbated by the effects of the substance (e.g. arguments with spouse about consequences of intoxication, physical fights).

B. The symptoms have never met the criteria for Substance Dependence for this class of substance.

Both the above sets of criteria involve the continued, habitual use of chemical substances in spite of the negative consequences thereof and embody a common sense notion of what is meant by the term *addiction*.

The DSM IV-TR (APA, 2000) further outlines diagnoses for substance intoxication, substance withdrawal, and a number of specific substance use disorders like Alcohol Dependence, Amphetamine Dependence and Cannabis Dependence.

Behavior patterns that are defined as behavioral addictions by some treatment models were not recognized as such by the DSM IV-TR. Where the Minnesota Model recognizes a Gambling Addiction as espoused by the 12-step support group *Gamblers Anonymous*, the DSM IV-TR categorises Pathological Gambling as an impulse-control disorder (APA, 2000). Similarly, where the Minnesota Model recognizes Sex Addiction as espoused by *Sex Addicts Anonymous* and *Sex and Love Addicts Anonymous* (Hazelden, Sex Addiction & Issues Links, 2009), the DSM IV-TR has one entry under Sexual Disorder Not Otherwise Specified, namely "Distress about a pattern of repeated sexual relationships involving a succession of lovers who are experienced by the individual only as things to be used" (APA, 2000, p. 582). Fisher and Roget (2009) anticipated a possible category of disorders in the DSM-5, under the heading: *Behavioral and Substance Addictions*. This, however, has not happened.

Although still very new, the DSM-5 diagnostic criteria for substance use disorders are worth noting. Under a new chapter, "Substance-Related and Addictive Disorders", the DSM-5 combines the categories of substance abuse and substance dependence outlined above into a single substance use disorder requiring at least two of eleven symptoms for a diagnosis, which is rated on a continuum from mild to severe, and for which each substance is treated as a specific disorder e.g. Alcohol Use Disorder-

Severe (American Psychiatric Association, 2013). "Craving, or a strong desire or urge to use a substance" has been added as a criterion, and the recurrent legal problems criterion has been removed. The threshold for diagnosis has been raised from one symptom to two (American Psychiatric Association, 2013). Gambling Disorder has been included under "Substance-Related and Addictive Disorders", as evidence suggests that the behavior activates the reward system in the brain in a similar way to substances of abuse, and also because there is overlap between the criteria of Gambling Disorder and the substance use disorders like persistent efforts to control the behaviors (American Psychiatric Association, 2013). Sexual Disorder Not Otherwise Specified as outlined above does not exist in the DSM-5 and no explicit equivalent is suggested (American Psychiatric Association, 2013).

2.1.2 WHO and the ICD-10

WHO (World Health Organisation, 2011) describes addiction in terms of the repeated and extensive use of psychoactive substances, periodic intoxication, compulsion to take substances and great difficulty in changing this behavior. It reiterates some DSM criteria like tolerance and withdrawal and further acknowledges the widely held belief in addiction as a progressive illness. Similarly to the DSM, WHO promotes the use of the term *dependence* over the term *addiction* (World Health Organisation, 2011).

The International Classification of Diseases (ICD-10), published by WHO (2010), has a large number of classifications of *'Mental and behavioral disorders due to psychoactive substance use'*, including acute intoxication, harmful use, withdrawal state and dependence syndrome. Dependence syndrome is defined as:

> A cluster of behavioural, cognitive, and physiological phenomena that develop after repeated substance use and that typically include a strong desire to take the drug, difficulties in controlling its use, persisting in its use despite harmful consequences, a higher priority given to drug use than to other activities and obligations, increased tolerance, and sometimes a physical withdrawal state. (World Health Organisation, 2010, para. 3)

This clearly parallels the DSM IV-TR and DSM-5 criteria for Substance Dependence and Abuse.

The ICD-10, like the DSM IV-TR and DSM-5, further defines a number of substance-specific disorders for example 'Mental and behavioural disorders due to use of alcohol' and 'Mental and behavioural disorders due to use of opioids'. There is wide overlap between the ICD-10 and the DSM and the two diagnostic tools can be seen as generally equivalent. Both the ICD-10 and the DSM IV-TR have been used to define addiction in a wide range of studies of substance use prevalence and epidemiology globally, reviewed in Chapter One.

2.1.3 American Society of Addiction Medicine (ASAM)

In April 2011, the American Society of Addiction Medicine published this definition of addiction, which differs from the DSM IV-TR and ICD 10 in several important respects:

> **Short Definition of Addiction:** Addiction is a primary, chronic disease of brain reward, motivation, memory and related circuitry. Dysfunction in these circuits leads to characteristic biological, psychological, social and spiritual manifestations. This is reflected in an individual pathologically pursuing reward and/or relief by substance use *and other behaviors* (emphasis added).
>
> Addiction is characterized by inability to consistently abstain, impairment in behavioral control, craving, diminished recognition of significant problems with one's behaviors and interpersonal relationships, and a dysfunctional emotional response. Like other chronic diseases, addiction often involves cycles of relapse and remission. Without treatment or engagement in recovery activities, addiction is progressive and can result in disability or premature death. (ASAM, 2011, para. 1)

It can be seen that ASAM is embracing a bio-medical model but, as will become evident in the review of treatment approaches, there are also aspects of the 12-step/Minnesota models in this definition, for example the '*spiritual* manifestations' of dysfunctional brain circuitry. ASAM, unlike the DSM IV-TR and ICD 10, also recognises behavioral addictions. There seems to be an implicit assumption that the same mechanisms underlie both chemical and behavioral addictions. The ASAM definition differs from the DSM IV-TR with respect to the aspect of loss of control, where it refers to *'diminished recognition'* of consequences as opposed to 'continued use *in spite of* consequences' (emphasis added) as in the DSM IV-TR. The DSM IV-

TR seems to be referring to an objectively observable behavior whereas ASAM seems to be making an assumption about the cognitive processes behind this behavior.

It is further noted that the ASAM definition refers explicitly to a 'dysfunctional emotional response', which may only be inferred from the DSM IV-TR diagnostic criteria. ASAM describes the 'dysfunctional emotional response' as including an increased sensitivity to stressors, increased anxiety, dysphoria and emotional pain, and difficulty in identifying feelings.

It is the researchers opinion that, of the three definitions discussed, the ASAM definition is the most appropriate to this study as it embodies the aspects of addiction embraced by the Minnesota Model, the 12-step programme and the treatment facility at which this research was conducted.

2.2 Approaches to Addiction Treatment

There are many approaches to the treatment of addiction, ranging from the non-clinical Alcoholics Anonymous through Cognitive Behavioral Therapy to pharmacological interventions. What follows is a review of the most widely used of these approaches, what they entail and what the research has indicated regarding their effectiveness.

2.2.1 Alcoholics Anonymous and the Twelve-step Program

In 1935, in Akron, Ohio, an alcoholic, now known as Bill W, asked a clergyman where he might find another alcoholic. Bill believed that talking to another alcoholic might help him in his long struggle to overcome his compulsion to consume alcohol and, more specifically, with his immediate compulsion to take a drink. The clergyman suggested a doctor who was known to him to be a chronic alcoholic. Bill met with 'Dr. Bob' who asserted that he could only spare about fifteen minutes of his time to meet with Bill. Hours later, they both realized that, as well as relating to each about their mutual affliction of alcoholism, neither had thought about having a drink since their conversation had started, which to them seemed a miracle. They immediately sought to find other alcoholics with whom they could share this discovery. So began the fellowship known as Alcoholics Anonymous (AA). In 1939 a book was published, titled *Alcoholics Anonymous*, which outlined a twelve-step program of recovery. The

current editions of the book also contain various stories of recovering alcoholics and the traditions of the fellowship (Alcoholics Anonymous World Services, 2001). It is noteworthy that AA influences most addiction treatment centres in the United States today (Kelly, Magill, & Stout, 2009).

Alcoholics Anonymous embraces a *disease model* of alcoholism. E.M. Jellinek first proposed the disease model in 1960, describing alcoholism as chronic, progressive and potentially fatal (Zweben, 1993). As such, it is believed that total abstinence for life is necessary to recover (Knack, 2009). It is in fact believed in AA and also from the perspective of the Minnesota Model (to be discussed shortly), that the illness progresses even when the addict is abstinent; that is, if they relapse, the addiction will have progressed from the time they began their period of abstinence. According to Zweben (1993), the addict/alcoholic must abstain from all mood-altering substances, as drug substitution is common. Zweben (1993) does concede that a few addicts can learn to use their drug of choice or another drug in moderation, but argues that the percentage of these cases is small. Addiction is therefore seen as incurable and the addict can only ever be 'recovering', that is, maintaining sobriety and managing their illness. The disease model has proved to be very useful in the treatment of addiction by, for example, providing a rationale for total abstinence. It has been employed by not only Minnesota Model treatment centres, but also the National Council for Alcoholism and the American Medical Association (Zweben, 1993).

It is perhaps supportive of AA's notion of addiction as a disease that there is growing evidence that addiction involves genetic factors and that there is a bio-chemical component to addiction and possible brain differences between addicts and non-addicts (Margolis, 1993). McGue (1999) suggests a 50%-60% genetic factor in the risk of alcoholism, while Zweben suggests that addiction is genetic in 30% of addicts (1993). However, she also supports the belief shared by AA and the Minnesota Model that non-addicts, through substance abuse, can cross a line from non-addict to addict and that once this line is crossed, there is no return (1993).

Within the disease model there is the concept of the Alcoholic or Addict Personality, which has been described as passive-dependent, immature and having difficulty in relating to others (Cook, 1988). Other personality traits attributed to alcoholics and

believed to predispose a person to drug use are impulsivity (Schuckit, 1986, as cited in McNeece & DiNitto, 2005), being highly emotional, having low frustration tolerance and having difficulty in expressing anger (Catanzaro, 1967, as cited in McNeece & DiNitto, 2005). The Minnesota Multiphasic Personality Inventory does differentiate the alcoholic from the general population, but this may only be after years of alcoholism and the effects thereof (MacAndrew, 1979, as cited in McNeece & DiNitto, 2005).

AA sees the twelve-step program as a spiritual path through which, among other things, characterological problems are addressed (Morgenstern, J., Labouvie, E., McCrady, B. S., Kahler, C. W., & Frey, R. M., 1997). For example, step 4 calls for a searching and fearless 'moral inventory' to be drawn up in which the individual looks at acts they have committed in violation of their own values. Steps 8 and 9 require the individual to make a list of all people they have harmed and for them to make amends to such people wherever possible.

Zweben (1993) adds that AA entails a multi-dimensional support structure and, being free, involves no financial barriers to membership. 'Working the program' involves regular attendance of AA meetings. This is believed to help with self-regulation and to give members a sense of relatedness and unconditional acceptance (Knack, 2009). Further, Knack (2009) believes that AA instills hope, helps with affect tolerance and provides an ethos of continued improvement. Members are encouraged to work the program with the help of a 'sponsor', a person who has acquired a notable period of sobriety. Such a person acts as a mentor, role model and confidante for the newcomer. The recovering alcoholic is paradoxically urged to accept powerlessness (step one) as part of the process of gaining control (Margolis, 1993). One of the philosophies of AA involves the alcoholic learning to 'live life on life's terms' and to 'let go' of self-will (Knack, 2009). This may be part of what Morgenstern (2002) sees as AA's common ground with cognitive behavioral approaches to addiction treatment (to be discussed in a subsequent section), as they involve changes in thinking about how one interacts with people and with one's environment (as cited in Knack, 2009). Margolis adds that the twelve-step program teaches its adherents to access the inner drive towards self-actualization and self-preservation within a context of caring and understanding (1993).

Humphreys and Moos (2007) found that an AA participation group achieved higher rates of abstinence and utilised fewer clinical services than did a CBT group (as cited in Knack, 2009). Based on reviewed literature, Emrick (1987) reported that up to 50% of long-term AA members maintained abstinence for multiple years (as cited in (McNeece & DiNitto, 2005). Cross et al. (1990) found at a ten-year follow up to intensive treatment that AA attendance predicted abstinence (as cited in McNeece & DiNitto, 2005). It has also been suggested that a greater degree of involvement in AA, rather than mere attendance, may better predict success in maintaining sobriety (Montgomery et al., 1995 as cited in McNeece & DiNitto, 2005).

2.2.2 The Minnesota Model

Between 1948 and 1950, three in-patient addiction treatment institutions were established in the United States - Pioneer House, Willmar State Hospital and Hazelden Addiction Treatment Centre (Cook, 1988). Although they differed somewhat, they were all based on the AA model of alcoholism and recovery, including the twelve-step program. A general program of treatment evolved out of these inpatient facilities, which is now known as the Minnesota Model and is used by most addiction treatment centres around the world (Morgenstern, Labouvie, McCrady, Kahler, & Frey, 1997). These facilities use a multi-professional and multi-disciplinary team to administer a holistic intervention. Such teams include psychologists, psychiatrists, doctors, nurses and addiction counselors. Counselors are often addicts themselves, which is believed to enhance their position as role models and as confidantes to their clients (Cook, 1988).

Programmes include group therapy, individual counseling and lectures on various topics including the disease model, life-skills and relapse prevention. Using elements of cognitive behavioral theory, the Minnesota Model teaches clients to avoid people, places and situations associated with past substance-use behaviors and promotes the adoption of new behaviors and recreational activities (Kellogg, 1993).

Treatment facilities traditionally offer primary stage treatment, which essentially deals with the addiction itself. Treatment at this stage involves challenging the client's denial, and getting the client to accept the disease model (i.e. that they have an

incurable illness) and the need for a life long commitment to abstinence and recovery. Primary stage can take anywhere between three to eight weeks (Cook, 1988).

Many facilities based on the Minnesota Model also offer secondary stage treatment, which involves further work on identified behavioral problems and maladaptive cognitive styles, and developing life skills, including relapse prevention. This stage of treatment also promotes healthy, stable routines, for example, eating patterns, sleeping patterns and daily planning as opposed to impulsive decision making. Secondary stage treatment usually lasts about eight weeks but can last longer if deemed necessary (Cook, 1988).

Zweben (1993) states that, although AA's twelve-step program is essential in early recovery, it cannot supply what addiction specialists can (Zweben, 1993). In-patient addiction treatment is therefore seen as a valuable springboard providing a solid foundation upon which to base one's recovery. Clients are, however, expected to attend twelve-step meetings from the start of treatment and for the rest of their lives.

Within the Minnesota Model, clients usually reside at the treatment centre, which provides them with a therapeutic milieu (Cook, 1988). Moos (2003) suggests that the social environment can enhance or detract from recovery and finds that residential treatment improves client participation and strengthens self-confidence. Across all treatment models, group process has been found to be most critical since it involves shared experience and hope, and enhances member's abilities to lead abstinent, productive lives (Borkman, Kaskutas, & Owen, 2007).

Viewed through the lens of identity theory, addicts are seen to share a common language and internalized group norms; to recover, the addict needs to shift from an addict identity to a non-addict identity (Kellogg, 1993). To this end, the addict needs to recover in a new social setting and be exposed to healthy social validation (Biernacki, 1986, as cited in Kellogg, 1993).

Another important aspect of the Minnesota Model is working with the addict's family (Hazelden, 2013). Addiction is seen as a family illness and families are therefore expected to attend lectures where they learn about the disease model and the family's

role in both active addiction and recovery. Specific family members are also asked to participate in 'conjoint' sessions with the addict, facilitated by a clinical psychologist and/or an addiction counselor. Families are encouraged to attend twelve-step meetings for family members of addicts, for example Alanon. Lemieux's (2002) view that family can be used as a lens through which to view addiction and as a resource in treatment supports the Minnesota Model's focus on family (as cited in Linley, 2010). Lemieux's point is that addicts exist within the context of family dynamics and that those dynamics have to be addressed in order to properly address the addiction (Linley, 2010).

Within the Minnesota Model, depending on whether or not clients participate in secondary stage treatment, they usually spend between one and three months in treatment. It has been found that the duration of treatment is more highly correlated with a successful outcome than is the amount or intensity of treatment, that is, the number of individual or group therapy sessions (Moos, 2003). It has also been found that success in recovery improves with duration up to two months in formal treatment and up to a year with twelve-step support (Witbrodt et al., 2007).

There are few published reports on the effectiveness of Minnesota Model-based treatment centres but a meta-analysis of studies indicated a 53% success rate at one-year follow-up (Stinchfield & Owen, 1998). The National Treatment Outcome Research Study (NTORS), a prospective study of the treatment outcome of drug misusers in community and residential treatment programmes in the United Kingdom, found a significant drop in behavioral problems in follow-ups with inpatients, although less so for heavy drinkers and crack cocaine addicts (Gossop, Marsden, Stewart, & Kidd, 2003).

2.2.3 Specific Treatment Techniques

There are various evidence-based approaches to addiction treatment in use around the world that seem to have comparable results (Kelly, Magill, & Stout, 2009). The Minnesota Model is just one of several approaches used globally, including in South Africa and the Western Cape. It should, however, be noted that Minnesota Model treatment centres use a broad range of techniques in their overall programmes, including CBT and Relapse Prevention. It is therefore important to also examine the

evidence supporting the effectiveness of specific techniques or models, rather than only for Minnesota Model treatment programmes as a whole.

2.2.3.1 *Cognitive Behavioral Therapy (CBT)*

Many approaches to substance use disorder treatment have at least some cognitive-behavioral components. Cognitive behavioral approaches are based on the assumption that substance-use is learned through classical and operant conditioning, and modeling (Barry & Petry, 2009). CBT approaches can be conducted in a group or individual format and involve working with current issues and past substance use behavior, learning and practicing new skills and anticipating problems (Barry & Petry, 2009). Marlatt (1985) outlines the process of examining the situational antecedents of addictive behavior and the consequences thereof, to gain an understanding of what is maintaining the behavior and what might inhibit it (as cited in Fisher & Harrison, 2009). McNeece and DiNitto (2005) state that CBT views substance use disorders as functionally related to many problems in the individual's life and that all problems need to be addressed in order to deal effectively with the substance use disorder. They further emphasize the importance of developing life-skills and working with both interpersonal and intrapersonal risk factors. Interpersonal work might include communication exercises and intrapersonal work might include anger management or dealing with depression.

Within CBT approaches to addiction treatment, sessions are structured and often consist of three twenty-minute segments. The first segment is spent reviewing the week since the last session and the second two segments are spent learning new skills and planning how to implement and practice them in the coming week, and setting homework tasks (Carroll, 1998, as cited in Barry & Petry, 2009).

In the nineties, Maude-Griffin, P. M., Hohenstein, J. M., Humfleet, G. L., Reilly, P. M., Tusel, D. J., & Hall, S. M. et al., (1998) reported that, although findings were mixed, studies had indicated that CBT was superior to other interventions in the treatment of substance use disorders. They further stated that CBT was comparable to the 12-step self-help groups that had shown positive outcomes in numerous studies. Other studies have indicated no significant, or minimal, differences between CBT and other approaches immediately after treatment, but that CBT's efficacy seems to

improve at one-year follow-up. This suggests that the practice of skills over time improves efficacy (Barry & Petry, 2009). Roberts and McCrady (2003) claim that CBT has been empirically proven to be effective (as cited in Fisher & Harrison, 2009).

2.2.3.2 *Contingency Management and Community Reinforcement Approaches*

Contingency Management approaches are theoretically based mainly on operant conditioning and the assumption that substance use disorders fall along a continuum of normal learned behavior (Higgins & Rogers, 2009). These approaches involve a system of materially rewarding participants for drug-free urine samples and treatment compliance (NIDA, 2011). Contingency Management involves the issuing of vouchers for clean urine samples. Vouchers can be exchanged for retail goods, and the value of vouchers increases with consecutive clean samples (Higgins & Rogers, 2009).

Community Reinforcement approaches involve teaching patients to recognise the antecedents and consequences of substance use and to alter their life-styles to avoid antecedents and find positive reinforcers as alternatives to substance use (Higgins & Rogers, 2009).

Contingency Management and Community Reinforcement approaches can include counselling sessions, promotion of safe recreational activities, social networks and employment, the submission of urine samples and Disulfiram therapy for alcohol abuse (Myers, Harker, Fakier, Kader, & Mazok, 2008). Disulfiram is a drug causing hypersensitivity to alcohol, leading to unpleasant symptoms after alcohol consumption.

Joining self-help groups like AA is encouraged in both approaches, as they are believed to help in the development of new social networks and pro-recovery activities like meeting for coffee as opposed to meeting for drinks.

The first study of Community Reinforcement approaches was done nearly forty years ago on alcoholic hospital inpatients, where it was found that time spent drinking in the six months post treatment was 14% for the CRA treatment group versus 79% for the

non-treatment group (Hunt & Azrin, 1973, as cited in Higgins & Rogers, 2009). Since then many studies have been conducted to include various illicit drugs and even cigarettes. Studies of contingency management approaches have shown effectiveness in treatment retention and increased abstinence (NIDA, 2011). It is also believed to have shown effectiveness in non-responsive clients in the general treatment population if the rewards are great enough (Robles et al., 2000 as cited in Myers et al., 2008).

These approaches are mostly used as components of other programmes and rarely as stand-alone treatments (Myers et al., 2008).

2.2.3.3 *Relapse Prevention*

Statistically, lapses are the most probable outcome after addiction treatment and lapses often lead to full-blown relapses to the pre-treatment status (Marlatt, Bowen, & Witkiewitz, 2009). Up to 50% of patients treated for substance use disorders will relapse within 6 months (McKay & Weiss, 2001 as cited in Moore, Seavey, Ritter, McNulty, Gordon, & Stuart, 2013) and up to 40% will present with a pattern of recurrent relapse and admission to treatment programmes (Scott, Foss & Dennis, 2005 as cited in Moore, Seavey, Ritter, McNulty, Gordon, & Stuart, 2013). Fisher and Harrison (2009) suggest that negative emotions like guilt and shame that may follow a slip can themselves precipitate relapse. The Relapse Prevention approach uses cognitive-behavioral and didactic techniques to prepare the recovering addict for high stress and high-risk situations, both in terms of identifying such situations so that they can be avoided, and to provide and develop strategies for dealing with them should they arise. Other aspects of Relapse Prevention programmes might include the development of support systems like family and 12-step groups, life style changes, management of leisure time and the development of relationship skills (Fisher & Harrison, 2009).

Relapse Prevention has been found to be as effective as 12-Step facilitation and Motivational Enhancement Therapy (discussed below) (Caroll, 1996, as cited in Myers, Harker, Fakier, Kader, & Mazok, 2008). It has also been found to be significantly more effective than no intervention (Dutra, Stathopoulou, Basden, Leyro, Powers, & Otto, 2008). Relapse Prevention may have long-term efficacy and

may limit the extent of relapse if it does occur (Center for Substance Abuse Treatment, 2006; Gossop, 2006, as cited in Myers et al., 2008; Rawson, R. A., Shoptaw, S. J., Obert, J. L., McCann, M. J., Hasson, A. L., Marinelli-Casey, P. J., et al., 1995).

2.2.3.4 *Motivational Enhancement Therapy*

Motivational Enhancement Therapy (MET) is based on Motivational Interviewing, a client centred approach that sets out to highlight the negative consequences of target behaviors and to develop future goals with the ultimate aim of developing motivation for change. There are four principles of Motivational Interviewing: expressing empathy, highlighting discrepancies between client behaviors and values, rolling with resistance (avoiding arguments) and supporting self-efficacy (Glynn & Moyers, 2009). One of MET's central techniques involves exploring and resolving ambivalence (NIDA, 2011; Rollnick & Miller, 1995).

As a client centred approach, clients are encouraged to use their own resources to effect change (Fisher & Harrison, 2009). It is believed that a possible mechanism of change could be the reinforcement of 'change talk' in the context of an empathic interpersonal dynamic between the client and the counselor (Miller & Rose, 2009). MET has been adapted to deal with drug and alcohol dependence and can be used independently or incorporated into other treatment programmes (Myers et al., 2008). The approach usually involves an initial assessment, followed by up to four individual therapy sessions (Myers, Harker, Fakier, Kader, & Mazok, 2008). Like Relapse Prevention, the therapist can suggest, for discussion, strategies for dealing with high-risk situations.

Roberts and McCrady (2003) assert that MET has been empirically proven to be effective (as cited in Fisher & Harrison, 2009). According to Glynn and Moyers (2009), there is evidence of the efficacy of Motivational Interviewing in the treatment of alcohol misuse and street drug use. There is also evidence that it may be effective in the treatment of MA dependence (Galloway et al., 2007 as cited in Myers et al., 2008). However, research suggests that MET may be more effective at engaging addicts in treatment than in actually producing abstinence on its own (NIDA, 2011).

Glynn and Moyers suggest that treatment providers use it as a tool within programmes and that it not be seen as a "panacea" (2009, p. 181).

2.2.3.5 *The Matrix Model*

The Matrix Model is a manualised outpatient programme that utilises various evidence-based approaches like CBT techniques and 12- Step participation (Marlatt, Bowen, & Witkiewitz, 2009). Adapted versions have been developed for the adolescent, adult and criminal justice populations (Myers, Harker, Fakier, Kader, & Mazok, 2008) The programme runs for about a year and includes relapse prevention, psycho-education, family education and regular drug and alcohol testing. Like MET, it is non-confrontational and aims to enhance self-esteem and self-worth (Fisher & Harrison, 2009).

The programme is divided into an intensive sixteen week phase that includes group sessions, individual counseling and education, and a 36 week continuing care phase during which support group sessions allow for social networking and mentoring by older participants (Fisher & Roget, 2009).

The Matrix Model dictates that its counselors should have a broad understanding of cultural and socio-economic differences (Center for Substance Abuse Treatment, 2006). This aspect is of particular relevance in the South African context where such issues may present various barriers to treatment (Myers, Louw, & Fakier, 2008). Also of particular relevance in the local context is evidence of significant reductions in psychological indicators[3] and sexual risk behaviors related to the use of the Matrix Model (Huber et al., 1997 as cited in Myers et al., 2008). There are currently several Matrix clinics in Cape Town where MA use has grown dramatically in treatment populations in the past decade.

A large, multi-site, United States study in 1999-2001 found that the Matrix Model was superior to various other established outpatient models *during treatment* in terms of attendance, duration of treatment, MA free urine samples and abstinence (Rawson et al., 2004). At a six-month follow up, however, although treatment remained

[3] According to Fisher and Roget (2009), the matrix counsellor works towards enhancing the client'self-esteem, dignity and self-worth.

efficacious, the Matrix Model was no longer superior to the other approaches in terms of outcome. It is important however that this study did support the already extant evidence that the Matrix Model is an effective approach to the treatment of stimulant use disorders.

2.2.3.6 *Medication*

It has been shown that treatment may be enhanced by the use of medication, both in terms of drug substitution and for the management of psychiatric disorders (Gossop, M., 2006; National Treatment Agency, 2006). Although Minnesota Model Treatment facilities use psychiatric drugs like mood stabilisers, anti-depressants and anti-psychotics to enhance treatment, the use of drug substitution would be seen as counter-therapeutic as they are strictly abstinence based and drug substitution would be seen as tantamount to cross-addiction. They do, however, use drugs like methadone and benzodiazepines in detoxification regimens. In spite of the Minnesota Model's position on drug replacement, long-term methadone treatment has been found to be highly effective. Ball and Ross (1991) found that 92% of methadone maintenance clients were abstinent from other opioids at 4.5 years (as cited in Fisher & Roget, 2009). Opioid pharmacology (like methadone) is the favoured treatment for heroin addiction globally (World Health Organisation, 2010).

2.2.3.7 *Aftercare*

Aftercare is widely believed to be an important follow-up to treatment as a reinforcer to what has been gained (Myers et al., 2008). Given the chronicity of substance use disorders, there is a trend toward the use of the term *continuing care* in cognisance of an ongoing need for support and resources for the recovering addict (Fisher & Roget, 2009). Aftercare / continuing care can include elements of primary treatment like individual and family counseling. 12-Step attendance is also promoted (Fisher & Harrison, 2009). Through these programmes, staff members are able to assist clients to assess their recovery and deal with obstacles (McNeece & DiNitto, 2005).

2.2.3.8 *Matching individuals with treatments*

It has been suggested that some approaches to addiction treatment may be better suited to certain individuals than other approaches (Maude-Griffin, Hohenstein, Humfleet, Reilly, Tusel, & Hall, 1998). However, Project MATCH, investigating

matching hypotheses like this, found no significant difference in treatment outcomes when matching individual characteristics with specific treatment approaches (Maude-Griffin et al., 1998). Similarly, some approaches may be better suited to certain addictions. For example, the Matrix Model was developed for treating individuals addicted to MA and other stimulants (Rawson, R. A., Marinelli-Casey, P., Anglin, M. D., Dickow, A., Frazier, Y., Gallagher, C., et al., 2004). It has also been found that outpatient programmes and methadone programmes may be better suited to treating heroin addiction than inpatient, abstinence based models (dos Santos, Rataemane, Fourie, & Trathen, 2010).

Generally, the findings have been that different evidence-based treatment models seem to perform equally well in spite of having different theoretical stances, which might indicate the importance of non-specific factors like motivation, therapeutic alliance (Barry & Petry, 2009), social support (like family and friends) and environmental risk factors (Buhringer & Pfieffer-Gershel, 2008, as cited in Miller, 2009) in successful outcomes.

2.2.4 Summary of Treatment Literature

Approaches to addiction treatment have been in existence for at least 78 years with the founding of AA in 1935, the development of the Minnesota Model since 1948, and the introduction or adaptation over the years of numerous other techniques including CBT, Contingency Management, Relapse Prevention, MET, The Matrix Model, Medication and Aftercare. Many of these approaches are utilised within broader models like the Minnesota Model. Others, like the Matrix Model and MET, endorse or motivate for the use of different models like the 12-step programme. The above-mentioned models are all evidence based and have been shown to have efficacy. They seem to have similar outcomes and are sometimes enhanced when models are used in combination with each other, like when Minnesota Model inpatient treatment programmes are followed up with Aftercare. It seems that no model is particularly suited to a specific kind of patient, but that some models may be well suited to particular addictions, like the Matrix Model that was developed for the treatment of addiction to stimulants.

There has been relatively little published literature on the actual process of treatment or of clients' stages of progress in treatment (Edelen et al., 2007; Hawkins, Baer, & Kivlahan, 2008; Kressel, De Leon, Palij, & Rubin, 2000). Though outcomes studies indicate that therapies do work for many addicts (though it must be borne in mind that attrition rates are high), there is limited knowledge about *how* or *why* they work (Paddock, Edelen, Wenzel, Ebener, Mandell and Dahl, 2007; Pos, Greenberg, & Warwar, 2009). Increasing our knowledge of how treatments work could enable the improvement of treatment programmes and the possibility of adjusting them to fit client characteristics.

2.3 The Process of Addiction Treatment

A decade ago, Kressel, De Leon, Palij, and Rubin (2000) proposed that research into client progress in substance use treatment was in the early stages and that it was essential to the understanding of what makes for effective treatment. Similarly, Stout (2007) underlines the importance of 'mining' underused information in an attempt to understand not just *what* happened but *why* it happened. Finney (2007) too argues for the importance of studying processes *during* treatment as opposed to focusing only on outcomes, on the grounds that this would be of greater clinical importance in terms of improving treatments and generalizing them to new settings.

Hawkins, Baer, and Kivlahan (2008) state that the literature indicates that a strategy of assessing patient progress through addiction treatment could inform interventions that reduce the risk of attrition. They argue that such a strategy does not yet exist in the field of addiction treatment and suggest that patterns of recovery in addiction treatment may differ from those in general psychotherapy.

It would seem, therefore, that there is a broad call for expanding research in the area of client processes during addiction treatment. What follows is a review of the research that has emerged in this area to date, what this work has entailed and, since process implies change, what 'change' might mean.

2.3.1 The Transtheoretical Model

Studies of multiple interventions for addiction have shown that different approaches show very similar results (Huebner & Tonigan, 2007). This observation is neither new nor unique to the treatment of addiction and as far back as 1979 Prochaska and

DiClemente were developing the Transtheoretical Model based on the implied hidden processes that underlie observed behavior changes, both across various psychotherapies and without therapeutic intervention (Prochaska, DiClemente, & Norcross, 1992). The Transtheoretical Model attempts to outline the mechanisms of change within and without treatment and includes a temporal dimension called the *stages of change* and a set of *processes* that underlie the progression through these stages (Prochaska, DiClemente, & Norcross, 1992). The five stages of change outlined by Prochaska and colleagues are: *pre-contemplation* during which there is no intention to change and there remains denial of the problem; *contemplation* in which there is awareness of the problem and the intention to confront it; *preparation* which involves both the intention to change and small steps towards implementing change; *action* during which there is overt modification of behavior, experience and environmental factors to facilitate change; and *maintenance,* which involves the consolidation of what has been learned and efforts towards relapse prevention (Prochaska, DiClemente, & Norcross, 1992). The *processes* of change are the activities related to attempts to change behavior through the various stages (Fisher & Roget, 2009). It has been found that *cognitive* processes like consciousness-raising and a re-evaluation of one's environment and oneself are more highly correlated with the earlier stages of change like the pre-contemplative stage. Later stages like the preparation and action stages are correlated with *behavioral* processes like avoiding high-risk situations or substituting alternatives for problem behaviors (Fisher & Roget, 2009).

It is noteworthy that Prochaska and colleagues (1992) suggest that moving from *contemplation* to *action* is a prerequisite to success. They have found that the action stage is particularly stressful and, during this stage, participants in their research relied increasingly on helping relationships (Prochaska, DiClemente, & Norcross, 1992). The correlation of action with successful outcomes is further supported by later research that indicates that those participants in the preparatory and action stages were more likely to complete treatment at a college counseling centre, whereas those in the pre-contemplative and contemplative stages were more likely to terminate treatment prematurely (Smith, Subich, & Kalodner, 1995). As mentioned earlier, treatment completion is correlated with better outcomes.

2.3.2 Social Control

A concept related to the processes of change and applicable in the context of the therapeutic community is *social control,* defined by Lewis and Rook (1999) as referring to interactions between network members that entail regulation, influence and constraint. According to Lewis and Rook (1999), social control is expected to have the effect of both improving health practices and evoking psychological distress. They believe that the mechanisms behind social control may involve the internalization of social obligations and the direct influence of network members encouraging health-enhancing behaviors and discouraging health-compromising behaviors, and that it may be the latter that leads to frustration, and hence psychological distress.

2.3.3 The Process of Change and Addiction Treatment Communities

De Leon (1995) describes addiction as involving social, emotional, cognitive and behavioral problems that both precede and are exacerbated by the abuse of substances and suggests, therefore, that abstinence is a *prerequisite* to recovery rather than the *goal* thereof (as cited in Kressel, De Leon, Palij, & Rubin, 2000). Kressel et al. (2000) see the therapeutic community as comprising a facilitative context for change in developmental, socialization and psychological status, the primary psychological goal being a change in negative patterns of behavior, cognition and affect. Edelen et al. (2007) go so far as to say that all interactions amongst staff and clients are the treatment itself, seeing the treatment process as being comprised of both the therapeutic community and the client's personal development. They propose that since the treatment programme cannot influence client behavior outside of treatment, any changes in client functioning post treatment must be the result of changes in psychological states during treatment (2007). Stout (2007) concurs with this reasoning. Edelen et al. (2007), in line with Kressel et al. (2000), see personal development, defined as changes in personal identity and perceptions, as essential to successful outcomes.

2.3.4 Second Order Change

A study by Hanna and Richie (1995) investigated the subjective experiences of individuals who were identified as having undergone a 'second order psychological

change'. Psychological change was defined by the researchers in terms of Corsini's definition as an improvement in cognitive, affective and behavioral functioning (Corsini, 1984 as cited in Hanna & Ritchie, 1995). Second order change was described as a deep and radical restructuring of an individual's core self, their mode of being and their worldview (Hanna & Ritchie, 1995). It was further suggested that environmental stressors and great inner conflict could catalyze such change. Participants reported that change was accompanied by negative subjective states including confusion, fear, depression and anger, and that these were later followed by a "pervasive sense of well-being" (Hanna & Ritchie, 1995, p. 179). This seems reminiscent of the psychological distress mentioned by Lewis and Rook (1999) regarding Social Control.

2.3.5 Emotional Processing as Core Change

It is noted that the literature often refers to change as involving, for example, 'negative subjective states' (Lewis & Rook, 1999), 'stress and the need for support' (Prochaska, DiClemente, & Norcross, 1992), fear, anger and depression (Hanna & Ritchie, 1995). Historically, one of the processes widely believed to be essential to client change is the deepening of emotional processing, defined by Pos, Greenberg, Goldman and Korman (2003) as attending to and tolerating emotional experience, and cognitively reflecting on and making sense of it (Greenberg & Watson, 2006; Pos, Greenberg & Elliott, 2008; Pos et al., 2003; Rogers, 1957 as cited in Pos, Greenberg & Warwar, 2009). Pos, Greenberg and Warwar (2009) found evidence to support this, finding a correlation between the degree to which clients used felt experience in problem solving, and positive outcomes in both depression and general psychological symptoms. 'Felt experience' in problem solving refers to the recognition and acknowledgment of the subjective experience of emotional responses to external events and how those responses are a part of perceived problems relating to those external events (Pos, Greenberg, & Warwar, 2009).

2.3.6 Protracted Withdrawal Syndrome and 'The Wall'

Along with the psychological processes involved in therapy or recovery, there are also apparent physiological processes that have been observed in the withdrawal from specific substances outside of the acute substance withdrawal as outlined by the DSM IV-TR. The DSM IV-TR criteria for withdrawal include maladaptive behavior change

with physiological or cognitive concomitants or impairments in social, occupational or other areas of functioning (APA, 2000).

The long term, post acute effects of withdrawal from alcohol are well known and many findings have indicated that alcoholics undergoing long-term abstinence can experience affective instability (Voltaire-Carlsson, Hiltunen, Koechling, & Borg, 1996). Voltaire-Carlsson et al. found significant differences between alcoholics abstinent over a period of fifteen weeks and a control group of non-alcoholics (that is, 'normal' drinkers) abstinent over a period of fifteen weeks. Alcoholics showed higher levels of sleep disturbance, concentration difficulties, anxiety, cravings, autonomic disturbance, pessimistic thoughts and, interestingly, good humour as measured by the Comprehensive Psychopathological Rating Scale (1996). These symptoms of 'Protracted Withdrawal Syndrome' are expected to set in at 28-56 days (4-8 weeks) of abstinence (Voltaire-Carlsson et al., 1996).

'The Wall', also referred to as Protracted Withdrawal, is a stage of recovery from methamphetamine addiction (Obert & Rawson, 2005). Obert and Rawson expect this stage to occur in the period from 46 -120 days (6-17 weeks) of abstinence and to include low energy, anhedonia, difficulty in concentrating, irritability, loss of sex drive and insomnia (2005). They believe that 'The Wall' could be the result of a "biological healing process in the brain" (Obert & Rawson, 2005, p. 15). One of the strengths of the Matrix Model is its duration, as by the time this high-risk period sets in, the average in-patients treatment period is over, while, as we have seen, the sixteen-week intensive period of the Matrix programme covers 'The Wall' period and attempts to provide some containment through this process.

One can see an overlap between the protracted withdrawal syndromes associated with both alcohol and methamphetamine addiction, and it seems reasonable to assume that there may be similar processes of adjustment associated with the withdrawal from other substances of abuse. It is noted that the expected time periods are different between the withdrawal syndromes associated with alcohol and with MA and were there to be withdrawal syndromes associated with other substances there may too be time periods specific to those substances.

2.4 Chapter Summary

In reviewing the literature, a general consensus has emerged regarding the definition of addiction by key interested organisations. There is evidence that various approaches are equally effective in the treatment of addiction. It is also evident that attrition rates in addiction treatment remain high and that there is much to be learned in terms of improving treatment interventions.

There has recently been some limited research on the processes of addiction treatment in an attempt to understand more about *how* treatments work. There has been a call for within-treatment research, with the assumption that knowledge gained could improve the efficacy of treatment and reduce attrition rates. The literature on client process in treatment includes the proposal that successful treatment requires a fundamental intrapersonal shift in the client and that such changes can involve disturbances in affective, cognitive and behavioral functioning. It has further been observed that this stage may be followed by a 'pervasive sense of well being'. Stout (2007) proposes that process researchers add a time-course dimension to the study of process dynamics. He argues that more time-point observations are needed in order to capture the full range of dynamic processes involved in treatment.

This study attempts to address such a time-course dimension in process dynamics by examining reports in client case files extracted at specific time-points over the course of secondary stage addiction treatment. It further attempts to pay heed to the issue of matching individuals to treatments, by comparing clients with Axis II personality traits with clients without Axis II personality traits, and clients recovering from stimulant addiction with clients recovering from non-stimulant addiction. Given the high prevalence of substance use disorders in the Western Cape and South Africa, and the gap in the literature outlined above, this research may offer a valuable contribution to our understanding of the process of addiction treatment.

CHAPTER THREE: METHOD

3.1 Research Aims

The aim of this study was to explore whether there are any discernable patterns in clients' functioning across different stages of secondary care treatment for substance abuse at a Cape Town treatment centre. The research aimed to address the following research questions:

1. Are there any specific patterns in the frequency of reported observations regarding clients' behaviors, cognitions, affects and physical states at different stages of their secondary stage addiction treatment?
2. Are there any differences in the frequency of observed behaviors, cognitions, affects and physical states across different stages of treatment between clients with Axis II personality traits and clients without Axis II personality traits?
3. Are there any differences as above between clients recovering from stimulant addiction and clients recovering from non-stimulant addiction?

3.2 Design

This research project is an example of a case study, defined by Stake as "not a methodological choice but a choice of what is to be studied" (Stake, 2000). Yin (2003) describes a case study as an empirical investigation of a phenomenon in the context within which it occurs (as cited in VanWynsberghe & Khan, 2007). In this case the phenomenon to be studied is client functioning during eight weeks of secondary stage treatment for addiction. The context is a secondary stage addiction treatment facility in Cape Town, South Africa, between March and October 2011. A case study is usually structured in terms of a number of research questions (Stake, 2000), the current study's having just been outlined above. Stake claims that a case study can be intrinsic, where the study is focused primarily on the particular case in question, or instrumental, where the focus is on understanding a more general interest (2000). This study straddles both, because while it is known that the results are specific to these participants at this institution at this time, as an example of a Minnesota model addiction treatment facility, this case study may begin to shed light on the processes of addiction recovery for addicts at treatment centres more generally.

3.3 Setting

The treatment facility is situated in Kommetjie in Cape Town, South Africa. It is a private, sixteen-bed in-patient facility. The eight-week treatment programme, based on the Minnesota Model, consists of group therapy, psycho-education and life skill groups, Dialectical Behavior Therapy groups and individual counselling. In terms of the evidence-based approaches discussed in the previous chapter, the programme draws on CBT, Relapse Prevention, Medication, and Aftercare including 12-step facilitation. Clients are expected to work through the 12-step programme, which involves written work and consultation with both counselors and a 12-step sponsor. Clients are further expected to attend at least two 12-step meetings per week, for which transport is provided, and an aftercare group once a week.

At the time of the study, the treatment team comprised a psychiatric nurse who was also a counselor and three other counselors who were also addicts in recovery. A counselling psychologist facilitated weekly ward rounds, and two psychiatrists, a clinical psychologist and a general medical practitioner consulted regularly. A qualified counselor and addiction specialist co-facilitated group therapy sessions several times per month on a freelance basis as needed. After hours and on weekends, clients are attended to by members of staff known as 'recovery assistants', some of whom are recovering addicts and familiar with the Minnesota model of addiction treatment and/or the 12-step programme.

At the time of the study, about 80% of the clients were Dutch, with the remaining clients coming from elsewhere in Europe, from the United Kingdom and from South Africa. Dutch clients are commonly referred to this treatment centre because the treatment facilities in Holland are not geared to treat addicts with dual diagnoses i.e. addiction plus at least one other psychiatric diagnosis. The limited South African representivity in this sample has implications for the generalisation of this study's findings to other substance abuse treatment facilities in South Africa, as will be discussed in the last chapter.

3.4 Participants

The treatment facility's clients were approached shortly after admission to secondary care over a period of five and a half months between February and August 2011. The aims of the research were explained to potential participants, as were issues of confidentiality and their right to change their minds at any point if they so chose. Those who agreed to participate, but who then left treatment prior to eight weeks were disqualified. In total, 35 clients agreed to participate in the study. Of these, two clients requested discharge before 8 weeks of treatment were complete, and were therefore disqualified, leaving a total sample of 33 participants. The participants included 24 males and 9 females aged 20 – 63 with an average age of 33 years and 11 months. According to their clinical records, 13 participants had been diagnosed by the consulting psychiatrist with a personality disorder or with personality disorder traits (diagnoses were made during an assessment interview at the start of primary care treatment) and 17 participants were non-stimulant drug users while 16 were stimulant drug users. All participants had a substance use, abuse or dependency disorder, and 9 participants were also diagnosed with at least one other Axis I disorder, most commonly mood and/or anxiety disorders. Of the sample, 23 participants were from Holland, 5 from the U.K., 3 from South Africa and 2 from Zimbabwe. See Table 3.1.

3.5 Data Collection

The sources of data for this study were the clinical case reports known at this facility as 'client reports'. These reports have a narrative structure and entries are made twice during the day by members of the counselling team, and twice at night by 'recovery assistants'. Due to the limited scope of this mini-dissertation, it was not feasible to sample each of the eight weeks of treatment. Therefore, a 'snapshot' was obtained at four stages of treatment:

1. Week 1 of secondary stage treatment (7 days)
2. Week 4 of secondary stage treatment (7 days)
3. Week 6 of secondary stage treatment (7 days)
4. Week 8 of secondary stage treatment (7 days)

There are four reports for each client per day. A total of 3696 reports were therefore included in the analysis (4 reports x 33 participants x 28 days sampled).

Table 3.1 *Participant Profiles*

Note: RHT (refused hospital treatment) refers to those who left treatment prematurely; Under 'Drug of Choice', eating disorders and compulsive gambling are also recorded; 'Abstinence' refers to the duration of sobriety prior to admission at primary stage treatment

No.	Gender	Age	Nationality	Drug of Choice	Abstinence	Diagnoses/Comments
1	M	33	UK	Alcohol, cocaine infrequently	5 days	II) Narcissistic Traits
2	M	25	UK		0 days	I) Psychotic episodes, depressive II) Borderline traits **RHT**
3	M	42	UK	Cocaine	0 days	None
4	M	20	Holland	Cannabis	4 days	None
5	M	23	Holland	Cocaine, cannabis	3 days	I) ADHD
6	F	31	Holland	Alcohol	4 days	I) Query bi-polar II) Borderline
7	M	26	Holland	Cannabis, cocaine, GHB	0 days	I) ADHD, OCD (in remission) II) Mixed PD (Clusters A & B).
8	M	34	RSA	Crack cocaine	7 days	I) Social Anxiety Disorder secondary to Depression? II) Avoidant traits, low self-esteem.
9	M	23	Holland	Cocaine, alcohol, gambling	8 days	None.
10	F	37	RSA		0 days	**RHT**
11	F	29	UK	Cocaine, alcohol	0 days	II) Borderline Traits.
12	F	50	Zimbabwe	Pain killers, sleeping pills	0 days	None
13	F	37	Holland	Eating D/O, alcohol	Alcohol 10 days	I) Recurrent depression
14	M	30	Holland	Alcohol, cocaine	Alcohol 1 year, cocaine 5 days	None
15	M	26	Holland	Cannabis, alcohol, gaming	2.5 weeks	I) Social Anxiety Disorder, mild depression II) Avoidant Traits
16	M	39	Holland	Cocaine	1 month	I) Asperger's II) Deferred III) Cerebral, Speech Impediment
17	F	47	Holland	Cocaine	5 months, 2 weeks	I) Bi-polar II) Query BPD
18	F	63	Holland	Alcohol	3 weeks	I) Depressive Episode.
19	M	29	Holland	Cannabis, cocaine	1 day	I) ADHD II) Borderline Traits.
20	M	26	Holland	Cannabis	2 days	I) Depression, Social Anxiety symptoms.
21	M	29	Holland	Alcohol, gambling	0 days	None
22	F	40	Holland	Cocaine	2 days	I) Depression II) BPD.
23	M	32	UK	Alcohol, GBL	0 days	I) Alcohol, Drugs, Query Social Anxiety II) Avoidant Traits.
24	M	51	UK	Alcohol, cannabis, crack cocaine, heroin, benzodiazepines	16 days	I) Alcohol, drugs, Sex-Love Addiction.
25	M	25	Holland	Cocaine, alcohol, crack cocaine	0 days	I) ADHD.
26	M	46	Holland	Alcohol	2 days	I) Social Anxiety, Dysthymia II) Avoidant Traits
27	F	49	Holland	Alcohol	3 weeks	I) Dysthymia
28	M	28	Holland	Cannabis	10 days	None
29	M	31	Holland	Cocaine, cannabis, alcohol	0 days	None

30	M	33	UK	Alcohol	3 weeks	I) Previous substance-related depression. II) Query Avoidant PD
31	F	50	RSA	Alcohol	0 days	I) Generalized Anxiety Disorder, Depression
32	M	27	Holland	Cannabis	2 days	I) Social Anxiety. II) Possibly Obsessive Traits
33	M	25	Zimbabwe	Alcohol	1 day	I) Query Dysthymia, Adjustment Disorder w/ Depressed Mood?
34	M	26	Holland	Cocaine	4 days	None
35	M	20	Holland	Cannabis, gambling	2 days	I) Anger Problem

In addition, the participants' drugs of choice, comorbid diagnoses, ages and nationalities were recorded from the files. Data collection began late March 2011 and continued until early October 2011.

Participants were assigned a participant number and names were not recorded for the analysis.

3.6 Data Analysis

The method of analysis used was that of a thematic analysis, described by Braun and Clarke as a method for identifying and analysing patterns in the form of themes within data (2006). The process involves familiarizing oneself with a data set, generating codes from the data relevant to the research question, and organising such codes into themes which can then be analysed (Braun & Clarke, 2006). Thematic analysis is flexible and allows for the coding to be driven by one's analytic interest (Braun & Clarke, 2006), in this case, the research questions stated.

From each of the participants' reports, all words and phrases that referred to the participants' emotional states, cognitive functioning, behaviors or physical conditions were recorded for the 1st, 4th, 6th and 8th weeks of treatment. All recorded data were captured in a grid matrix as illustrated in Table 3.2.

After the data were captured for each of the four weeks sampled, each specific week was examined and the words and phrases captured were grouped per week and counted. During this phase, certain extracts were edited, to lift specific words or phrases from these extracts that were deemed specifically appropriate to the aims of

the study. For example, "*apologised*" was extracted from "*apologised for not turning up for walk*", as it was deemed important that an apology was made and that the specific circumstances around the apology were of secondary importance.

As the process continued, reports were combed for words and phrases identified in previously analysed weeks and these were counted and recorded. In addition to this, new, previously unseen words and phrases were recorded and counted and added to the growing data set. The coding process yielded a list of 347 different words and phrases that had been used across all participants over the four weeks sampled.

These words and phrases were then categorised under five broad categories: *Affective, Cognitive, Behavioral, Physical* and then a *Miscellaneous/General* category that was used to record words and phrases that did not seem to belong to the other four. Each of these categories was in turn divided into positive, negative and neutral sub-categories. The positive category was populated with words and phrases that appeared to imply healthy or euthymic mood states or mental and physical well-being. Conversely, the negative category was populated with words and phrases that seemed to imply distress or being physically or mentally unwell or discontented. The neutral subcategory was later added, as two themes that emerged, *quiet* and *pensive,* seemed to fit neither the positive nor the negative sub-categories. It should be noted that the labels *positive*, *negative* and *neutral* are for the utility of analysis only and are not meant to imply a value judgement about whether a behavior or affect is "good", "bad" or neither. Table 3.3 contains examples of codes that emerged from the analysis, organised according to categories, each with positive and negative sub-categories. Emergent themes are in recorded in bold type. Note that the neutral subcategory had not yet been created.

3.7 Ethical Considerations

Given that the participants in this study were not directly involved in any way (data were collected from reports as opposed to from the participants directly), the main ethical considerations had to do with their rights to privacy, confidentiality, and self-determination as outlined under Section E of the American Psychological Association's 'Ethical Principles of Psychologists and Code of Conduct' (American Psychological Association, 2010). The participants' anonymities were protected at all times. Their names, personal details and details of treatment were not relevant to the

study and were not used in this mini-dissertation. The researcher worked alone and had no need to share client information with any third party. No one but the researcher knows the names and identities of the clients that the participant numbers refer to. The participants are referred to in this study by their ascribed numbers only. Reports were only included in the study the with the permission of the clients concerned, that permission having been granted by means of an informed consent form (see Appendix). Participants were verbally informed of the nature of the research and the methods that would be used. The consent form stipulated, and the participants were informed verbally, that they had the right to withdraw their participation at any point before, during or after the commencement of the study.

The following chapter will outline how the words and phrases captured in the coding process were used to derive themes, and how these themes were analysed. Findings will be discussed.

Table 3.2 *Sample grid matrix*

Client	Drug of Choice	Abstinent	Date of Arrival at Primary Care	Date of Arrival at Secondary Care	Week 1	Week 4	Week 6	Week 8
1	Alcohol, Occasionally Cocaine	5 days	23/1	21/2	**21/2** eve- settling in well, socializing 22/2 settling into groups, feeling a little trapped being in treatment eve- more social, asking for help, looking forward to walk 23/2 grandiosity, knowing it all, apologised for not turning up for walk with (client), appeared cynical, wary of the programme working for him, has not surrendered to the process eve- hiding behind intellectualizing, really sociable, enjoyed painting, doing his own thing 24/2 confronted a peer, rationalized feedback, little value in community, intellectualizing eve- social, appears comfortable, disappeared early in the evening 25/2 tired, relaxed and calm eve- good meeting, talkative and having a laugh, entertaining the crowd 26/2 good social mood, rationalizing, intellectualizing, masking, socialising eve- masking, undermining of programme 27/2 relaxed, enthusiastic and excited re cooking, entertained the other with intellectual grandiosity, assisted (client) eve- loud, joking and laughing, don't know if he has landed yet	**14/3-** Appropriately giving feedback, serious in conversation re recovery. 15/3 Good positive space, quietly organizing better workflow, good space, focused. 16/4 Looks calm/relaxed, appears to be making huge progress, good space, pro-active as house leader. 17/4 good space, starting to appear over controlling, taking on more than other house leader. 18/4- Firm and assertive with another client, set goal for himself to be more silent. 20/4- Very disciplined and dedicated as house leader, good progress	**28/3-** focused on house leader duty, pre-occupied, expressed wanting recovery, better vision of future. 29/4- good space, appears calm and relaxed. 30/4- good recovery space, willing. 1/4- seems relaxed. 2/4- seemed in a good space. 3/4 – good space. Appears more contemplative than normal.	**11/4 –** Old behavior observed, confused in his thinking. 12/4- appeared calmer and more real, serious re recovery. 13/4- swallowed his feelings and would not allow himself to be vulnerable, became cynical again, didn't say much this evening. 14/4- very quiet in group. 15/4- Not giving feedback, quiet in community, 5pm good space improved mood.

Table 3.3 *Examples of codes*

Note: Emergent themes are in bold-face

Affective		**Cognitive**		**Behavioral**		**Physical**		**Miscellaneous/General**	
Positive	**Negative**	**Positive**	**Negative**	**Positive**	**Negative**	**Positive**	**Negative**	**Positive**	**Negative**
Euthymic: Cheerful Enjoy Enjoyable evening Enjoyed Enjoying Excited Feeling best Feeling good Good Good mood Good relaxed mood Good spirits Grateful Gratitude Happy Happy to be back Pleasant mood Positive mood Upbeat Uplifted mood **At ease:** Calm Comfortable Comfortable space Contained Content Even mood Fair mood Fair spirits Relaxed Relaxing mood Fair Fine	**Anger:** Anger Angry Annoyed Frustrated Frustrated at peers Frustration Grumpy Impatient Irritable Irritated Irritations **Depressed Mood:** Cried Crying Depressed Despondency Dip in mood Down Feeling worthless Miserable Sad Sadness Tearful Unhappy Upset Anxious: Vulnerable space Anxiety Anxious Anxiousness Fear Fear about leaving Feels unsafe sharing room w/ (a particular peer)	**Motivated:** Enthusiastic Expressed wanting recovery Focused Motivated More motivated to look at self Open minded Serious (positive) Wanting to be more responsible Wanting to engage Willing Committed **Optimistic:** Hope Looking ahead positively More positive Positive Seeing the light **Self Esteem:** Good headspace More confident Proud **Reflective (more quiet?)**	**Pensive:** Distracted In the head Pensive Pre-occupied **Negative thinking:** Judgmental Negative Pessimistic Self-pity Unsatisfied **Thoughts of leaving:** Debating staying or going Thoughts of leaving Thoughts (fearful fantasy) about returning to Holland Wanting to go home **Obsessive:** Obsessing Obsessive Worried she would not sleep	**Engaged:** Active Active in group Active in groups Active in.. Actively listening Actively participated Actively participating Actively shared Attentive in group Diligent Doing house keeping duties very well Engaging Focused on his work Focused on recovery Focusing on recovery Following the rules Good job Good participation Good role model Great participation Participated Participated actively Participated well Participative Present	**Not engaged:** Quiet in group Quiet in.. **Withdrawn:** Accused of isolating Did not want to play games Isolating Less sociable Not active in group Not around Separated from the group Subdued in groups Under cover Under the radar Withdrawn **Rule Breaking:** Rule breaking Went out without permission Doing her make-up in staff toilet (out of bounds) Boundary (broke) Boundary violation Breaking boundaries Broke a boundary Broke boundary Up after Curfew In trouble	Strong physical sensations during Visualization	**Tired:** Bed early Drained Early night Exhausted Sleepy Slept before lunch Slept most of afternoon Slept through work session Snooze in the afternoon Tired **Illness:** Not feeling well Felt ill Felt sick Flu-like symptoms **Sleep disturbance:** Didn't sleep well Insomnia Struggling with bad dreams **Pain:** Headache **Other:** Difficulty breathing	**Good Space:** Good positive space Good real recovery space Good recovery space Good space Positive recovery space Positive space Shining **Grounded:** Grounded Grounded recovery space Grounded space **Improvement:** Better mood Better space Calmer Good shift in attitude More serious More stable No neediness observed Not as social-centred Positive growth Surrendered Turning over a new leaf Lighter	**Quiet:** Quiet Quiet evening Quiet night **Difficult day:** Didn't have a good day Difficult day Bad day Heavy day **Sent back to primary:** Returned to primary **Concern:** Concerned about him Concerns raised by peers **Cravings** **Tough week** **Tired of leadership** **Final warning** **First warning** **Asked to leave** **Bad space** **Bored** **Grounded (gated)** **Not in good space**

CHAPTER FOUR: ANALYSIS AND DISCUSSION

This chapter will explain the process of generating themes from the data and how these themes were analysed. The frequencies of categories and themes will be compared and contrasted across time-points for the sample as a whole. Thereafter, caparisons will be made between the Axis II and non-Axis II subgroups, and between the stimulant user and non-stimulant user subgroups.

4.1 Themes

Words and phrases coded from the counselors' reported observations of clients in the daily reports were categorised according to themes that seemed to best capture the essence of words and phrases that described similar observations (see Table 2, previous chapter). For example, words like *cheerful, feeling best, good mood, happy* and *upbeat* were clustered together amongst others under a theme named *Euthymic* within the *Positive* subcategory of the *Affective* category. Similarly, *rule breaking, went out without permission, boundary violation, up after curfew* and *in trouble* were clustered together amongst others under a theme named *Rule Breaking* within the *Negative* subcategory of the *Behavioral* category. A process of further comparison led to certain themes being collapsed into or merged with other themes. For example, the Affective, Behavioral and Miscellaneous/General categories all had *Improvement* as themes; these were then incorporated into a theme called *General improvement*. Some of the theme names like *Euthymic* and *At ease* were created by the researcher to reflect the words and phrases encompassed by that theme. Other theme names were already in the data set, for example the terms *Pensive* and *Motivated* were frequently reported in the case records. *Good space* and *Under the radar* could have been incorporated into the *Euthymic* and *Withdrawn* themes respectively, but due to the fact that each of these terms were so common in the reports they were included as separate themes in their own right. Themes like *Relapsed* and *Sent back to primary* (primary stage treatment) were taken directly from the reports and included as themes because, although they did not occur often, they were seen by the researcher as fairly severe presentations and therefore important.

Through this process, 12 themes related to positively valenced observations, 27 themes related to negatively valenced observations and 2 themes related to neutral observations emerged from the data (see Table 4.1)

Table 4.1 *Themes with examples of the codes that comprise them*

POSITIVE	**Examples of words/phrases or rationale for inclusion**
At Ease	Content, Comfortable, Calm
Engaged	Actively participating, Attentive in group, Engaging, Focused on his work
Euthymic	Cheerful, Feeling best, Good mood, Happy, Upbeat
General improvement	Feeling better, Less angry, More relaxed, Relieved
Good space	Term lifted directly from reports (common term)
Grounded	Grounded, Grounded recovery space, Grounded space (common term)
Health Promoting	Looking after herself, Meditated, Healthy boundaries
Motivated	Enthusiastic, Motivated, Wanting to engage, Committed
Optimistic	Hope, Looking ahead positively, positive, Seeing the light
Positive mood	Words and phrases under implying positive mood states e.g. Laughter, Jovial
Pro-social	Apologetic, Helpful, Apologised for behavior, Appropriate
Social	Interacted with peers, Interactive, Socialised
NEGATIVE	**Examples of words/phrases or rationale for inclusion**
Anger	Angry, Annoyed, Frustration, Grumpy, Irritated
Anxiety	Anxiety, Anxiousness, Fear about leaving, Feels unsafe
Attitude	Defiance, Defiant, Confronted re remarks, Arrogance, Defensive
Bad Space	Term lifted from reports, assumed to be an indicator of general distress
Concern	Concerned about him, Concerns raised by peers
Cravings	Term lifted from reports as notable relative to treatment goals
Depressed mood	Depressed, Despondency, Feeling worthless, Sad, Tearful, Unhappy
Deterioration	Old behavior (common)
Emotional	Emotional (common), Feeling up and down, Difficult emotions, Mixed feelings
Final warning	Term lifted from report as indicator of severe presentation
Illness	Not feeling well, Felt ill, Felt sick, Flu-like symptoms
Negative thinking	Judgmental, Negative, Pessimistic, Self-pity, Unsatisfied
Not engaged	Quiet in group, Not active in group
Obsessive	Obsessing, Obsessive, Worried she would not sleep (fixation)
Pain	A negative physical presentation e.g. headaches were common
Paranoia	Belief that group was out to get her
Relapsed	Term lifted from report as indication of severe presentation
Rule breaking	Rule breaking, Went out without permission, Boundary violation, Up after Curfew
Sent back to primary	Term lifted as from reports as severe presentation
Sleep disturbance	Didn't sleep well, Insomnia, Struggling with bad dreams
Thoughts of leaving	Debating staying or going, Thoughts of leaving, Wanting to go home
Tired	Drained, Exhausted, Sleepy, Slept most of afternoon
Tough week	Lifted from reports as indicator of general distress
Under the radar	Common term seeming to refer to active avoidance of being observed
Vulnerable	Term lifted from reports
Warning	Term lifted from reports as indication of severe presentation
Withdrawn	Did not want to play games, Isolating, Under cover
NEUTRAL	**Examples of words/phrases or rationale for inclusion**
Pensive	Distracted, In the head, Pensive, Pre-occupied
Quiet	Quiet, Quiet evening, Quiet night

The frequency with which each theme was reported in the case records was then counted for each week sampled. These frequencies are reported in Table 4.2.

Table 4.2 *Frequencies of themes at each week sampled*

Categories	**Week 1**	**Week 4**	**Week 6**	**Week 8**
POSITIVE				
At Ease	98	66	65	54
Engaged	167	54	68	69
Euthymic	118	84	70	80
General improvement	37	49	53	26
Good space	53	88	115	119
Grounded	20	27	35	28
Health Promoting	18	7	5	10
Motivated	72	19	26	22
Optimistic	23	14	12	15
Positive mood	4	4	6	2
Pro-social	31	19	25	13
Social	63	29	22	20
Total Positive	**704**	**460**	**502**	**458**
NEGATIVE				
Anger	15	40	32	21
Anxiety	42	10	16	23
Attitude	2	9	6	1
Bad Space	1	2	4	2
Concern	0	1	2	3
Cravings	1	2	3	0
Depressed mood	16	19	24	19
Deterioration	0	0	6	5
Emotional	13	11	10	14
Final warning	0	0	2	0
Illness	6	0	8	4
Negative thinking	4	2	4	1
Not engaged	14	9	7	13
Obsessive	3	1	3	1
Pain	6	5	3	4
Paranoia	1	0	1	1
Relapsed	0	0	1	0
Rule breaking	2	7	10	1
Sent back to primary	0	2	2	0
Sleep disturbance	7	5	4	1
Thoughts of leaving	1	2	4	2
Tired	35	26	23	19
Tough week	0	0	3	0
Under the radar	14	6	8	3
Vulnerable	6	5	1	1
Warning	0	3	1	0
Withdrawn	27	19	8	9
Total Negative	**216**	**186**	**196**	**148**
NEUTRAL				
Pensive	9	9	15	13
Quiet	47	22	29	22
Total Neutral	**56**	**31**	**44**	**35**

Because a particular participant might raise the frequency of a particular theme by having a high number of recorded observations for that theme at a particular point in treatment, the data were also analysed to record the number of clients that presented with each theme per week sampled. These frequencies are reported in Table 4.3 and expressed as percentages of the whole sample group. For example, in Week 1, 30 of 33 participants (91%) had reported observations in their files for the *At ease* theme whereas in Week 4, 28 of 33 participants (85%) had recorded observations for this theme.

First the frequencies of Positive, Negative and Neutral categories will be compared across time-points and then the most frequent individual themes will be discussed within each time-point. Statistical comparisons are not possible due to various data related issues including the small sample size and the fact that comparisons are being made across four time-points. Rather, trends will be noted.

4.2 Frequency of Positive, Negative and Neutral categories across time-points for total sample

The total number of Positive themes, Negative themes and Neutral themes were summed for each of the four time-points. The overall trend for the Positive, Negative and Neutral categories is that the highest frequencies for each category are found in the first week, the numbers drop quite substantially at the fourth week, increase again slightly in the sixth week and drop again at the eighth week. The greatest difference in frequency from one sampled week to another is in the Neutral category (comprising only two themes) between Week 1 and Week 4. Here there is a drop from 56 overall occurrences to 31 occurrences, a drop of 45%. We also see a large drop from Week 1 to Week 4 in the Positive category, from 704 to 460 occurrences, a drop of 35%. Comparatively, although there is also a drop in Negative category between Weeks 1 and 4, it is only from 216 to 186, a drop of 14%. In the Negative category we see the largest drop between Weeks 6 and 8, from 196 to 148, a drop of 24%.

The high overall frequency of Positive, Negative and Neutral themes at Week 1 relative to other sampled time-points in the treatment programme may reflect the relative visibility or conspicuousness of in-patients at different points in treatment. If this is true, visibility could be a function of enthusiasm on the part of participants in

Table 4.3 *Number of clients presenting with each theme per week sampled*

Categories	**Week 1**		**Week 4**		**Week 6**		**Week 8**	
POSITIVE	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
At Ease	30	91	28	85	28	85	26	79
Engaged	31	94	24	73	28	85	27	82
Euthymic	32	97	26	79	28	85	28	85
General improvement	22	67	21	64	22	67	14	42
Good space	24	73	29	88	28	85	30	91
Grounded	19	58	18	55	20	61	18	55
Health Promoting	13	39	6	18	5	15	8	24
Motivated	25	76	14	42	15	45	15	45
Optimistic	17	52	9	27	11	33	13	39
Positive mood	2	6	4	12	6	18	2	6
Pro-social	16	48	14	42	15	45	11	33
Social	28	85	14	42	11	33	12	36
NEGATIVE								
Anger	10	30	19	58	17	52	15	45
Anxiety	20	61	8	24	13	39	12	36
Attitude	2	6	4	12	6	18	1	3
Bad Space	1	3	2	6	3	9	2	6
Concern	0	0	1	3	1	3	3	9
Cravings	1	3	1	3	3	9	0	0
Depressed mood	8	24	12	36	15	45	14	42
Deterioration	0	0	0	0	5	15	4	12
Emotional	10	30	7	21	9	27	8	24
Final warning	0	0	0	0	2	6	0	0
Illness	2	6	0	0	4	12	3	9
Negative thinking	4	12	2	6	4	12	1	3
Not engaged	8	24	6	18	6	18	8	24
Obsessive	3	9	1	3	3	9	1	3
Pain	2	6	3	9	2	6	3	9
Paranoia	1	3	0	0	1	3	1	3
Relapsed	0	0	0	0	1	3	0	0
Rule breaking	2	6	5	15	6	18	1	3
Sent back to primary	0	0	2	6	2	6	0	0
Sleep disturbance	5	15	4	12	2	6	1	3
Thoughts of leaving	1	3	2	6	3	9	2	6
Tired	21	64	16	48	12	36	14	42
Tough week	0	0	0	0	3	9	0	0
Under the radar	11	33	6	18	5	15	3	9
Vulnerable	4	12	4	12	1	3	1	3
Warning	0	0	3	9	1	3	0	0
Withdrawn	15	45	12	36	6	18	7	21
NEUTRAL								
Pensive	9	27	7	21	10	30	8	24
Quiet	17	52	10	30	18	55	15	45

the first week of secondary care treatment after finishing a month of primary care. This might be related to making a fresh start at a new facility, enjoying the fruits of sobriety such as improved energy levels and clarity of mind, and anticipating further growth and a hopeful future. This proposed enthusiasm could be evidenced by the

disproportionately high frequencies of the themes *Engaged* (the theme with the highest frequency in Week 1) and *Motivated* (the theme with the 4th highest frequency in Week 1). By Week 4, these themes have dropped by 68% and 74% respectively, possibly the novelty of the fresh start having worn off, or enthusiasm having been moderated by the challenges of a new programme not yet mastered. Another component of visibility could be related to the *Social* theme, which is also prominent in Week 1 and drops by 54% at Week 4. It seems plausible that an individual who is being social relative to others, or relative to themselves at other times, would be more likely to be noticed. 85% of participants presented as *Social* at least once in their first week of treatment. At Week 4, this number had dropped to 42%, suggesting a possible trend in the sample towards social withdrawal after Week 1.

The *Euthymic* theme had the second highest frequency at Week 1, which may be related to the *Engaged, Motivated* and *Social* themes, as an individual who is judged to be engaged, motivated or social might also be judged to be euthymic. *Euthymic*, however, unlike *Engaged, Motivated* and *Social,* was not disproportionately high in prevalence at Week 1 compared to later time-points. Nevertheless, the *Euthymic* frequency dropped by 29% from Week 1 to Week 4 and was high in Week 1 relative to all later frequencies of the *Euthymic* theme and may still possibly be related to participant visibility.

Under the negative subcategory, *Anxiety, Tired* and *Withdrawn* account for almost half of the total negative frequency at Week 1. These will be discussed shortly under the next section, but where observed anxiety may possibly increase an individual's visibility, it may also be related to *Withdrawal*, as an anxious person might well be expected to withdraw. Further, being tired and being withdrawn might appear similar to the observer. It seems possible that both could raise visibility for the opposite reasons to those of the positive themes like *Social* and *Engaged*. These themes in the negative subcategory might be conspicuous by virtue of their lack of engagement, sociability or enthusiasm.

The high frequencies in the Positive, Negative and Neutral categories at Week 1 may also reflect the degree to which the report writers are actively observing the participants at the beginning of treatment. It might be expected that participants in

their first week of secondary stage treatment would be more closely observed than older members of the in-patient community, as the staff might have a specific interest in how they are coping and/or settling into their new environment, what particular strengths or weaknesses they may have and how they are interacting with others in the in-patient community, for example. Similarly, in the interest of communicating information about new in-patients to other staff members, report writers may be likely to write more, and to write more descriptively, about newcomers than they would about older in-patients.

An additional factor in the disproportionally high count of Positive themes in Week 1 may have to do with inpatients being 'on their best behavior'. Newcomers, being unfamiliar with the new surroundings and staff, might exercise more caution than they might normally do. Those that are going to struggle with the rules and the structure of the treatment environment might also take some time to feel or express distress or resistance. This is possibly reflected in the frequencies of the Negative themes *Attitude* and *Rule breaking*, both of which increase between Week 1 and Week 4. Although the frequencies are low, *Attitude* increases from 2 to 9, and *Rule breaking* from 2 to 7. These themes are both only recorded for 6% of participants in Week 1, but at Week 4, 15% of participants are reported as *Rule breaking* and 12% as displaying *Attitude*. However, it should be noted that the overall pattern across all weeks makes clear the fact that high frequencies of Positive themes do not imply low frequencies of Negative themes or vice versa. Indeed, most themes, Positive, Negative or Neutral, follow the same overall trend. This would seem to support the idea of fluctuating visibility of participants and/or scrutiny by report writers.

A second observation regarding the theme frequencies over the four weeks sampled is that the overall frequencies across all these weeks are substantially higher for Positive themes than Negative or Neutral themes. Overall, the frequency of Positive themes was 2.3 times higher than the frequency of the Negative and Neutral themes together, in spite of the fact that there are 2.4 times as many themes in the Negative and Neutral categories as in the Positive category. The high frequency of instances of Positive themes relative to Negative and Neutral themes is consistent across all time-points and does not appear to shift across the admission, treatment and termination stages of the programme. Some possible explanations are proposed.

By the time the in-patients have arrived at secondary stage treatment, they have generally been abstinent from all substances for at least four weeks. This in itself might have a positive physical and psychological impact on the individual's overall functioning and sense of wellbeing, which might in part explain the generally positive feedback in client reports. Further, there may be a sense of mastery that comes with the adoption of new ideas, philosophies and life-skills and the re-instillment of hope that enhances the individual's sense of well-being.

Given that the in-patients are being treated for addiction and that almost all of the participants have been abstinent for at least four weeks by the start of secondary stage treatment and 12 weeks by the end of treatment, perhaps it is to be expected that the overall observation should be that the in-patients are doing well. According to the DSM-IV-TR, after four weeks of abstinence, patients are in Early Full Remission; clinically, they are no longer mentally ill. Further, if one looks at mental illness bio-psycho-socially, there is an argument to be made for a relatively strong mental health status by this stage of treatment: A biological component of the illness has been contained, namely substance use, which acts and impacts on an organic level. This should have a positive effect on general functioning as mentioned. Secondly, the therapeutic environment is generally a containing one. Although in-patients are expected to challenge themselves as part of the therapeutic process, which can be distressing, this is done in a supportive environment. Further, they have been and are removed from or buffered against the general stressors of everyday life, be they domestic, relational, work related or environmental.

Another possible factor is that in many substance abuse programmes, a significant number of in-patients are treated pharmacologically with antidepressants, mood-stabilisers and/or anti-psychotics as an adjunct to addiction treatment. By the time they reach secondary stage treatment there has been at least four weeks for such interventions to take effect, which may also contribute to general euthymia.

In the following section, the most prominent themes recorded at each time-point will be discussed.

4.3 Frequency of specific themes by stage of treatment

4.3.1 Week 1

In Week 1, the four most frequently recorded themes are, in order, *Engaged* (167), *Euthymic* (118), *At ease* (98) and *Motivated* (72), all Positive themes. Under Negative themes, *Anxiety* (42) is the most frequently observed theme in Week 1, followed by *Tired* (35) and *Withdrawn* (27). Under the Neutral themes, *Quiet* is recorded 47 times in Week 1.

As mentioned in the previous section, *Engaged, Euthymic* and *Motivated* might be related to enthusiasm for reasons already discussed. However, one might expect that in the first week of treatment at a new facility, with new staff and some unfamiliar in-patients, newcomers might experience anxiety to a greater or lesser degree, possibly alternating with more positive feelings. This, combined with the proposed visibility factor, might explain the relatively high reported frequencies of *Anxiety* at Week 1. If we examine the participant frequencies in Table 4.3, we can see that there is a degree of overlap between clients being reported as *Engaged* (94%) and clients being reported with *Anxiety* (61%), suggesting that these states co-exist in many participants rather than being two distinct groups of participants (e.g. one engaged, one anxious).

A number of factors might be related to the high frequency of *Tired* at Week 1. Long-term use of, or dependence on, sedative substances like opiates, benzodiazepines or alcohol may leave such individuals dependent on these substances in order to fall asleep at night. When these substances are no longer available to them they may struggle to achieve normal sleep for some time, leaving them tired during the day. Others may have had their natural sleep patterns disrupted for long periods of time through the use of stimulants like cocaine or methamphetamine that prevent normal sleep, or sleep at appropriate times. Such individuals may find themselves struggling both to sleep at night and to maintain daytime wakefulness. It is noted that the frequency of the theme *Sleep Disturbance*, while relatively low, is highest at Week 1 and declines over time, as does *Tired.*

The reported frequencies of patients being *Withdrawn* and *Quiet* are relatively high at Week 1, which might be expected, as if one is withdrawn, one might well also be quiet. However, where one might have expected to see high frequencies of *Withdrawn*

correlated with high levels of *Depressed mood*, this is not the case. In fact, when *Depressed mood* does become prominent at Week 6, *Withdrawn* has becomes far less prominent. The high frequencies of *Withdrawn* and *Quiet* could arguably be related to the high levels of *Tired,* as those who are tired might be relatively quiet and be judged by observers to be withdrawn. This was alluded to in the previous section.

4.3.2 Week 4

By Week 4, *Good Space* (88) and *Euthymic* (84) are the most common themes, followed by *At ease* (66) and *Engaged* (54). There has been little change in the most frequent themes except that *Euthymic*, *At ease* and *Engaged* are all reported at lower frequencies than at Week 1, *Good space* has increased to become one of the most frequent themes in Week 4, and *Motivated* (19) has dropped off very substantially by 53%.

It has already been noted that all theme frequencies drop between Week 1 and Week 4 and that this may be related to some general factors like scrutiny or visibility, but it is interesting that *Good space* has increased by Week 4, especially since *Euthymic* has dropped, and these two themes would seem to be synonymous. Perhaps the reason *Euthymic* drops in frequency while *Good space* increases, is related to the proposed phenomenon of scrutiny by report writers. It was suggested that report writers might be observing in-patients more closely during their early stay than at later times. If there were a general improvement over time while at the same time a decrease in scrutiny of individual in-patients, then perhaps report writers were giving fewer nuanced descriptions of individuals' statuses and more frequently using the generic term *Good space* instead. We know from looking at the overall frequencies that *Good space* is being used more and more in the reports the longer an individual is in treatment. We also know that this is a function of an individual's stay as opposed to a function of time per se (e.g. a drift in the report writing style), as each participant was sampled over a seven-week period, but the data were collected from the reports of different participants over a period of seven months. Assuming that *Good space* is in fact merely another example of *Euthymic* then it might be interesting to combine the frequencies of the two themes. The combined frequencies yield 171 in Week 1, 172 in Week 4, 185 in Week 6 and 199 in Week 8. It would seem that the combined *Euthymic/Good space* theme remains stable at Weeks 1 and 4, and then increases

slightly at Week 6 and again at Week 8. This demonstrates an increase in positive mental status descriptors captured by the combined *Euthymic/Good space* theme of 16.4% between Weeks 1 and 8.

It has been suggested that *Motivated* and *Engaged* might be related via the proposed factor of enthusiasm, which in turn could have been a function of new arrival. *Motivated* has dropped very notably by Week 4 from 72 to 19, and is no longer one of the most frequent themes. *Engaged* has also dropped quite substantially from 167 to 54. Although it is still amongst the most frequently recorded themes, it has dropped from being the most frequent theme at Week 1 to the least frequent of the top four. This mutual drop in frequency of the *Motivated* and *Engaged* themes might support the proposed relationship between the two, and indicate that initial enthusiasm on the part of participants declines in a notable way by Week 4 of treatment. As mentioned in the previous section, enthusiasm might have been tempered by the difficulties and challenges presented by the secondary stage treatment programme. Further, by Week 4, any 'novelty factor' might have worn off.

Under the Negative categories, *Anger* (40) is now the most common theme while *Anxiety* (10) has dropped since Week 1. The high frequency of the *Anxiety* theme at Week 1 has been tentatively explained as being a function of new arrival, amplified like all themes by scrutiny and/or visibility. Accordingly, the drop in *Anxiety* at Week 4 might be expected. The increase in *Anger* at Week 4 could possibly, in part, be related to the proposed phenomenon of in-patients being on their best behavior in Week 1; patients might be less likely to express anger when trying to behave themselves. It was also proposed that those who are going to struggle might take time to feel distressed and therefore express emotions like anger. By Week 4, challenging programme content may be taking its toll, provoking and eliciting anger amongst some inpatients. Another factor could again have to do with visibility and scrutiny. It seems likely that individuals expressing anger would be more likely to be visible to report writers and, once anger is noted in a patient, they might be more likely to be scrutinized.

Tired (26) and *Withdrawn* (19) are still common but not as frequent as they were in Week 1. It was suggested that *Tired, Withdrawn* and *Quiet* could be related and that

being tired might underlie *Withdrawn* and *Quiet.* Note that, like *Tired* and *Withdrawn, Quiet* has also dropped at Week 4 (from 47 to 22). The decrease in the recorded frequency of the *Tired* theme might involve sleep hygiene. Since starting primary stage treatment, inpatients have had a daily structure that includes mandatory lights out at 11pm and morning waking at 7am. This may facilitate the gradual rectification of disruptions to sleep patterns or circadian rhythms. Further, anxiety might impact negatively on the quality of sleep and, as noted, anxiety, if measured by the *Anxiety* theme, has dropped notably at Week 4.

4.3.3 Week 6

At Week 6, *Good space* (115), *Euthymic* (70), *Engaged* (68) and *At ease* (65) are again the most frequently recorded themes, with *Good space* and *Engaged* having both increased notably since Week 4. The increase in the frequency of *Good space* might be related to the previously proposed mechanism in which report writers are using *Good space* generically to refer to descriptors that would otherwise have been captured under the *Euthymic* theme. We do see a drop in *Euthymic* from 84 to 70 between Weeks 4 and 6. By combining *Good space* and *Euthymic,* as mentioned, we see a small increase from 172 in Week 4 to 185 in Week 6, possibly an indication that euthymic mood states are generally increasing or in any event are not decreasing.

At Week 6 there is also a notable increase in the *Engaged* theme. The *Engaged* theme to a large degree comprises descriptors that relate to involvement with the therapeutic programme work (groups, lectures and therapeutic activities) including a considerable amount of 'homework' to be done outside of programme time. It could be that along with increased engagement compared with Week 4, participants are also more reflective and thoughtful, which may present as being quieter but not necessarily more withdrawn. This idea may be supported by the 66% increase in the frequency of *Pensive* from Week 4 to Week 6.

With regard to Negative themes, although *Tired* has remained quite stable between Weeks 4 and 6, *Withdrawn* has dropped by 58%. The decrease in *Withdrawn* may be associated with the increase in reported frequency of *Engaged,* suggesting a possible shift amongst participants in their overall level of active engagement with the programme at Week 6. The 32% increase in *Quiet* over the same time period would

seem to challenge an assumption that this theme could be related to *Tired* and/or *Withdrawn. Quiet* may refer to observations of quiet reflectiveness instead of more active withdrawal, and its increase at Week 6 may possibly reflect an increase in reflective processing amongst participants at this stage of treatment. The frequency of *Social* drops slightly from 29 to 22 between Weeks 4 and 6, which might be related to both the increase in the *Quiet* theme, and the increase in the *Engaged* theme, as time spend engaging in programme material is arguably time not spent socialising.

Anger has dropped by 20% from 40 in Week 4 to 32 at Week 6. It was earlier suggested that after some time in secondary care treatment (by four weeks) some participants might have reached a point where they have come to feel distressed in the context of the rules and structure of the treatment environment and that the increase in the frequency of the *Anger* theme might reflect this. Similarly, the decrease in *Anger* by Week 6 could reflect acclimatisation to rules and structure. The drop in *Anger* could also be related to the increase in the combined *Euthymic/Good space* frequency, the increase in the *Engaged* frequency, and the steady decrease in the *Tired* theme frequency. However, *Anger* remains the most frequently reported Negative theme at Week 6 (as it was at Week 4), suggesting that expressions of anger are still common amongst patients at this stage of treatment relative to other Negative affects such as anxiety and vulnerability. The prominence of *Anger*, however, could once again be a function of visibility as mentioned, as expressions of anger might be conspicuous and elicit the attention of report writers and therefore be more likely to be reported than other themes.

At Week 6, the *Depressed mood* theme not only becomes prominent, but is at its highest recorded frequency over the four weeks sampled. It has increased by 50% since Week 1. If *Depressed mood* were a measure of clinical depression, one might expect to find increased frequencies of *Tired, Sleep disturbance* and possibly *Withdrawn*, yet all these themes have dropped in frequency. *Negative thinking* has increased very slightly from 2 to 4 between Weeks 4 and 6, which could be related to *Depressed mood*, and *Anxiety*, also known to be correlated with depression, has increased by 60% between Weeks 4 and 6. It seems plausible that patients seen to be anxious by report writers could also be perceived to have depressed mood. Possibly related to appraisals of depressed mood is the fact that the *Quiet* theme has increased

in frequency by 32% since Week 4. Perhaps the mutual increase in *Anxiety* and *Quiet* are related to increased interpretations of *Depressed mood*.

4.3.4 Week 8

At Week 8, generally the final week of treatment, the most frequently recorded themes are *Good space* (119), *Euthymic* (80), and *Engaged* (69). The combined frequency of the *Euthymic/Good space* themes at Week 8 is 199. This combined frequency has increased steadily since Week 1, possibly indicating, as suggested, a general improvement over time. It has been suggested that as time progresses, psychopharmacological treatments have more time to take effect and the possible benefits of abstinence have time to accumulate. These factors may contribute to the steady increase in the *Euthymic/Good space* combined themes over the four weeks sampled. This apparent improvement might also be an indication that treatment (including counselling, group therapy, life skills etc) is working at least to the degree that it may be contributing to the clients' overall sense of well-being. Positive mood states may also be related to the prospect of discharge.

At the same time, at Week 8, although much lower than in Week 1, the *Anxiety* theme has increased in frequency since Week 4 by 130%. A number of references to anxiety in the reports at Week 8 are related to the approach of discharge. As mentioned, although treatment is in many ways challenging, being an inpatient also cocoons one from the stresses of normal life. Work, finances, relationship difficulties, legal challenges etc are, in a sense, temporarily suspended. The artificial environment created by the treatment facility may come to feel not only familiar, but safe and supportive as well. The prospect of leaving can provoke not only anxiety, but fear. It seems possible that the increase in the frequency of the *Anxiety* theme towards the end of treatment, like the positive mood states mentioned above, might also be related to imminent departure.

The *Anger* theme, at a recorded frequency of 21 at Week 8, is half of what is was at Week 4 and has dropped by 34% since Week 6. This would seem to be a notable improvement, perhaps, as discussed, a function of acclimatisation, the general increase in the *Euthymic/Good space* themes and the gradual decrease in the *Tired* theme. It still, however, remains a common theme at this time-point. However, as

mentioned, *Anger* and the expression thereof, might be intrinsically more visible and inviting of scrutiny than many of the other themes that have arisen.

Depressed mood at Week 8 is still one of the more frequent themes in the Negative category, but far less common than reports of euthymic mood. This may indicate that a subgroup of patients display depressed affect fairly steadily throughout treatment, though this would require further investigation.

The *Tired* theme, although still prominent, has maintained a steady decline, reaching a frequency of 19 by Week 8. This seems to support the idea of sleep hygiene having a positive affect on quality of sleep over time. It has also been suggested that drug use might have impacted on circadian rhythms, and perhaps the duration of abstinence has also had a positive effect. Again, the relatively high frequency of *Anxiety* does not seem to have had any notable impact on the frequency of the *Tired* theme. *Sleep disturbance* is at its lowest frequency at this time-point and has shown a consistent correlation with the *Tired* theme, which would seem to make intuitive sense. The fact that *Tired*, although diminished, remains prominent, might simply be a function of the fact that the treatment programme keeps the in-patients busy and for them to be tired might well be expected and appropriate.

In the following section, the comparison between the Axis II and non-Axis II subgroups will be described and discussed.

4.4 Comparison between Axis II and non-Axis II subgroups

The percentage of participants in each subgroup (Axis II and non-Axis II) who were reported to present with each theme was compared across the four time-points (see Tables 4.4 & 4.5). For each category, differences across the two subgroups are reported first, followed by similarities. First, the positively valenced themes are compared.

The number of non-Axis II participants who were reported to be *At Ease, Engaged, Euthymic,* in a *Good Space*, *Optimistic* and *Pro-social* remained quite consistent across time periods, with no fluctuations of greater than 10% between each time-

Table 4.4 *Number of Axis II clients presenting with each theme per week sampled*

Categories	**Week 1**		**Week 4**		**Week 6**		**Week 8**	
POSITIVE	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
At Ease	12	92	11	85	11	85	8	62
Engaged	12	92	8	62	10	77	11	85
Euthymic	13	100	9	69	10	77	11	85
General improvement	8	62	7	54	10	77	6	46
Good space	8	62	11	85	9	69	11	85
Grounded	7	54	8	62	8	62	6	46
Health Promoting	6	46	3	23	2	15	1	8
Motivated	10	77	3	23	8	62	8	62
Optimistic	8	62	2	15	3	23	6	46
Positive mood	1	8	1	8	1	8	0	0
Pro-social	8	62	6	46	7	54	4	31
Social	11	85	5	38	4	31	5	38
NEGATIVE								
Anger	5	38	5	38	5	38	7	54
Anxiety	8	62	3	23	4	31	6	46
Attitude	2	15	1	8	3	23	1	8
Bad Space	1	8	1	8	0	0	1	8
Concern	0	0	1	8	0	0	2	15
Cravings	0	0	1	8	0	0	0	0
Depressed mood	2	15	4	31	4	31	8	62
Deterioration	0	0	0	0	1	8	3	23
Emotional	3	23	2	15	4	31	3	23
Final warning	0	0	0	0	2	15	0	0
Illness	2	15	0	0	2	15	1	8
Negative thinking	4	31	0	0	2	15	0	0
Not engaged	3	23	3	23	0	0	2	15
Obsessive	2	15	1	8	1	8	0	0
Pain	0	0	0	0	1	8	0	0
Paranoia	0	0	0	0	0	0	0	0
Relapsed	0	0	0	0	1	8	0	0
Rule breaking	1	8	2	15	3	23	0	0
Sent back to primary	0	0	1	8	1	8	0	0
Sleep disturbance	1	8	2	15	0	0	0	0
Thoughts of leaving	0	0	1	8	1	8	1	8
Tired	7	54	5	38	3	23	5	38
Tough week	0	0	0	0	1	8	0	0
Under the radar	5	38	3	23	1	8	1	8
Vulnerable	1	8	1	8	0	0	0	0
Warning	0	0	1	8	0	0	0	0
Withdrawn	7	54	5	38	2	15	3	23
NEUTRAL								
Pensive	2	15	4	31	5	38	3	23
Quiet	7	54	5	38	6	46	5	38

Table 4.5 *Number of non-Axis II clients presenting with each theme per week sampled*

Categories	**Week 1**		**Week 4**		**Week 6**		**Week 8**	
POSITIVE	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
At Ease	18	90	17	85	17	85	18	90
Engaged	19	95	16	80	18	90	16	80
Euthymic	19	95	17	85	18	90	17	85
General improvement	14	70	14	70	12	60	8	40
Good space	16	80	18	90	19	95	19	95
Grounded	12	60	10	50	12	60	12	60
Health Promoting	7	35	3	15	3	15	7	35
Motivated	15	75	11	55	7	35	7	35
Optimistic	9	45	7	35	8	40	7	35
Positive mood	1	5	3	15	5	25	2	10
Pro-social	8	40	8	40	8	40	7	35
Social	17	85	9	45	7	35	7	35
NEGATIVE								
Anger	5	25	14	70	12	60	8	40
Anxiety	12	60	5	25	9	45	6	30
Attitude	0	0	3	15	3	15	0	0
Bad Space	0	0	1	5	3	15	1	5
Concern	0	0	0	0	1	5	1	5
Cravings	1	5	0	0	3	15	0	0
Depressed mood	6	30	8	40	11	55	6	30
Deterioration	0	0	0	0	4	20	1	5
Emotional	7	35	5	25	5	25	5	25
Final warning	0	0	0	0	0	0	0	0
Illness	0	0	0	0	2	10	2	10
Negative thinking	0	0	2	10	2	10	1	5
Not engaged	5	25	3	15	6	30	6	30
Obsessive	1	5	0	0	2	10	1	5
Pain	2	10	3	15	1	5	3	15
Paranoia	1	5	0	0	1	5	1	5
Relapsed	0	0	0	0	0	0	0	0
Rule breaking	1	5	3	15	3	15	1	5
Sent back to primary	0	0	1	5	1	5	0	0
Sleep disturbance	4	20	2	10	2	10	1	5
Thoughts of leaving	1	5	1	5	2	10	1	5
Tired	14	70	11	55	9	45	9	45
Tough week	0	0	0	0	2	10	0	0
Under the radar	6	30	3	15	4	20	2	10
Vulnerable	3	15	3	15	1	5	1	5
Warning	0	0	2	10	1	5	0	0
Withdrawn	8	40	7	35	4	20	4	20
NEUTRAL								
Pensive	7	35	3	15	5	25	5	25
Quiet	10	50	5	25	12	60	10	50

point. By contrast, there was greater fluctuation across time-points for each of these themes in the Axis II subgroup.

For example, *At ease* drops from 85% to 62% between Weeks 6 and 8, and *Optimistic* drops from 62% to 15% between Weeks 1 and 4. These differences may possibly indicate more variability in positive mood states in this subgroup at different points in treatment. Reports of *General Improvement* also fluctuate over time for the Axis II group but remain fairly consistent across time for the non-Axis II group, although in Week 8 as discharge approaches the non-Axis II group has a 20% drop in reports of *General Improvement.*

Reports of being *Motivated* decline fairly steadily for the non-Axis II group between Weeks 1, 4 and 6, before stabilizing as discharge approaches; while reports of being *Motivated* fluctuate more for the Axis II group, dropping sharply from 77% at Week 1 to 23% at Week 4, before rising again to 62% at Weeks 6 and 8. Once again, we seem to be seeing more variability in the Axis II subgroup. Although there is change over time for both groups, the non-Axis II group seems to show a more steady change with less dramatic shifts between weeks. It is noted that in Weeks 6 and 8, while both subgroups are stable, the Axis II group is considerably more motivated than the non-Axis II subgroup. A link has been suggested between *Motivated* and *Engaged* and in the Axis II subgroup these themes do show similar fluctuations, whereas in the non-Axis II subgroup they are both more stable.

In contrast to the greater fluctuations reported for the Axis II group in the above themes, reports of *Health Promoting* behaviors drop steadily over the course of treatment for the Axis II subgroup, while for the non-Axis II group they drop off in the middle of treatment (at Weeks 4 and 6) but then increase again at Week 8 to reach the same level that they were at when treatment began. This might suggest that the non-Axis II group found health promoting behaviors more rewarding or beneficial than did the Axis II group, although both subgroups may have initially tried such behaviors as may have been suggested or prescribed. Perhaps the dip in the utilization of these behaviors by the non-Axis II subgroup reflects engagement in or distraction by others activities, or the perceived lack of need to use these behaviors in Weeks 4

and 6. If the Axis II subgroup had been less rewarded by health promoting behaviors, then this might explain the consistent drop-off over the duration of treatment.

With regard to similarities between the two subgroups, reports of *Positive Mood* are low for both subgroups across all time-points, compared with the other positively valenced categories. Although it is not immediately clear how reports of *Positive Mood* might be conveying something different to *Euthymic, Good Space* and *Optimistic,* this different pattern suggests that *Positive Mood* reports in the case files may be tapping something different to these other themes. The *Positive mood* theme comprises behaviors like laughter that imply positive moods. It may be that report writers are more likely to interpret the behavior and record the interpretation e.g. 'Good space' than to record the specific behavior. It is also noted, however, that there is more variability in the *Positive mood* theme for the non-Axis II subgroup, another exception to the generally more variable tendencies in the Axis II subgroup. Reports of being *Grounded* are consistent in both groups across time (again, suggesting that this theme may be conveying something different to themes like *At Ease* or *Euthymic*). Reports of being *Social* are highest for both groups in Week 1 and then drop off for both groups for the remainder of treatment. This is consistent with what was generally observed for the theme frequencies at each time-point.

In general then, the findings indicate a greater degree of fluctuation in case reports of many (though not all) positively valenced mental states and behaviors amongst the Axis II subgroup when compared with the Axis I subgroup.

Looking at the negatively valenced themes, the *Emotional, Negative thinking, Not engaged* and *Rule Breaking* themes show generally more stability over time for the non-Axis II subgroup than they do for the Axis II subgroup, similar to the general pattern in the positive category. For example, the *Emotional* theme drops from 35% at Week 1 for the Non-Axis II group to 25% at Week 4 where it remains for the duration of the treatment period. For the Axis II subgroup, *Emotional* drops from 23% at Week 1 to 15% at Week 4, then rises by 16% to 31% at Week 6, dropping again at Week 8 to 23%. *Rule breaking* for the non-Axis II subgroup starts at 5% at Week 1, rises to 15% where it stays for Weeks 4 and 6, and then drops again to 5% at Week 8. For the Axis II group, it starts at 8% at Week 1, increases to 15% at Week 4, then again to

23% at Week 6, after which it drops quite noticeably to 0% at Week 8. In contrast to the generally more variable themes in the Axis II subgroup, *Anger* remains fairly stable for the Axis II subgroup, staying at 38% for Weeks 1, 4, and 6 and rising to 54% at Week 8. For the non-Axis II subgroup, *Anger* starts at 25% at Week 1, increases noticeably to 70% at Week 4 and then drops to 60% and 40% at Weeks 6 and 8 respectively. The relative stability of *Anger* in the Axis II group may reflect the fact that at least half the subgroup has been identified as having Cluster B personality traits and that the expression of anger, being a trait characteristic of this subgroup, might therefore be expected. Conversely, *Anger* might be expected to be less consistent in the alternative subgroup. However, the percentage of individuals presenting with *Anger* in the non-Axis II group overall, is notably higher.

A greater percentage of participants in the non-Axis II subgroup presented with both the *Tired* theme and the *Sleep disturbance* theme over the time of treatment than those of the Axis II subgroup. There are also more non-Axis II participants presenting with *Not engaged* over the treatment period than Axis II participants. One could perhaps argue that tired people are less likely to engage than those who are not tired and the percentages of both themes do seem to fluctuate similarly for both subgroups. The Axis II group starts with 54% of participants presenting with *Tired* and 23% with *Not engaged. Tired* then drops to 38% at Week 4 while *Not engaged* remains at 23%. At Week 6, *Tired* drops again to 23% and *Not engaged* drops to 0%. At Week 8, *Tired* increases again to 38% and *Not engaged* increases to 15%. For the non-Axis II group we see a similar pattern with *Tired* moving from 70% to 55% between Weeks 1 and 4, while *Not engaged* moves from 25% to 15%. Tired then increases to 45% where it remains at Week 8, while *Not engaged* increases to 30% where it remains at Week 8. One cannot, however, ignore a possible counter logic, which assumes that after a day of engagement, one might expect to be tired. The numbers, however, do not seem to reflect this. There seem to be no other obvious patterns that suggest differences between theses subgroups that might explain this difference. It is possible that the difference is merely random.

Another area of apparently marked difference between the Axis II and non-Axis II subgroups lies with the *Illness* and *Pain* themes. While one might expect a correlation between pain and illness, when comparing these themes, we do not see one. There

seems to be no relationship between these themes in terms of the number fluctuations by week. However, nearly twice the percentage of people in the Axis II subgroup present with *Illness* over the full treatment period than do those in the non-Axis II subgroup. Conversely, more than 5 times the percentage of people in the non-Axis II subgroup present with *Pain* than those in the Axis II group. Clearly pain here is not a function of illness, but it is hard to make sense of this contrast. It may simply reflect random coincidence. If the Axis II subgroup spent more time together, this might explain higher numbers getting ill, but there are no data regarding this. One might postulate that the Axis II group is generally more stressed and therefore more susceptible to illness. They do not however present as noticeably more anxious than the non-Axis II subgroup. Even stranger is the high presentation of *Pain* in the non-Axis II subgroup. Again this could be mere co-incidence, but it may bear further investigation.

It terms of similarities between the two subgroups, most themes other than those discussed above seem to present similarly, possibly due to generally smaller numbers per negatively valenced theme. There are some themes, however, that do stand out. As already mentioned, there are similar percentages presenting with *Anxiety* for both subgroups, with the Axis II and non-Axis II subgroups presenting with 62% and 60% respectively at Week 1 and then dropping to 23% and 25% respectively at Week 4. They then deviate from one another somewhat for Weeks 6 and 8 with both increasing, to 31% and 45% respectively at Week 6, but then at Week 8, the Axis II subgroup continues to increase in numbers to 46% while the non-Axis II subgroup drops again to 30%. It has been suggested that *Anxiety* close to termination is high due to impending termination. It could be that the Axis II subgroup is more distressed by the approach of termination as a function of greater rigidity in functioning as would be expected with an Axis II diagnosis or traits, and that the anticipation of change provokes more anxiety in this subgroup than the other. It is perhaps not coincidental that, at 62%, the *At ease* theme is lowest at this time-point for the Axis II subgroup than for either subgroup at any other time-point.

The *Tough Week* and *Vulnerable* themes show similar fluctuations from week to week for both subgroups. The *Vulnerable* theme has the Axis II and non-Axis II subgroups presenting with 8% and 15% respectively at Weeks 1 and 4. Both subgroups then

drop, to 0% and %5 respectively, for Weeks 6 and 8. Similarly, *Tough Week* has the Axis II and non-Axis II subgroups both presenting with 0% at Weeks 1 and 4, presenting with 8% and 10% respectively at Week 6, and thereafter both dropping again to 0% at Week 8.

The neutral category comprises only two themes, *Pensive* and *Quite,* that seem to present with a similar degree of variability with neither of the two seeming particularly stable over time. Of the two themes, *Quiet* presents with the most variability in the non-Axis II subgroup. The Axis II and non-Axis II subgroups start similarly at 54% and 50% respectively. The non-Axis II subgroup then drops quite notably to 25% at Week 4 where the Axis II subgroup only drops to 38%. The non-Axis II subgroup then increases dramatically to 60% at Week 6 while the Axis II subgroup increases slightly to 46%. At Week 8, the non-Axis II subgroup has dropped again to 50% and the Axis II subgroup has returned to 38%. It is noted that apart from Week 1 to Week 4, the percentages for *Quiet* and *Pensive* fluctuate together with an increase in the one being paralleled by the other for both subgroups. *Quiet* might therefore be related to individuals being more reflective and thoughtful. Related to this it was suggested that the *Quiet* theme may reflect engagement in programme material. However, when comparing the Axis II and non-Axis II subgroups, while there is more variability in the *Quiet* theme for the non-Axis II group, the opposite is true for the *Engaged* theme.

With the positively valenced themes there are a number of quite marked differences in fluctuation between the two subgroups. Such differences are less clear but nevertheless present when looking at the negatively valenced themes and the neutral themes. This smaller difference between subgroups might, as mentioned, be related to the generally smaller numbers per theme in the negative category and the small number of themes in the neutral category.

Overall, however, the Axis II group shows more variability over the duration of treatment. One might conclude that this reflects something about the stability vs. volatility or lability of the groups relative to each other. It might be expected that the Axis II subgroup should be less stable and more volatile, labile and reactive than the non-Axis II subgroup, particularly since at least half of the Axis II subgroup's

members have Cluster B personality traits, consistent with the aforementioned characteristics. It could perhaps be argued that the relative stability of percentages for the negative themes as opposed to the positive themes within the Axis II subgroup indicates that the Axis II subgroup participants are more consistently experiencing or presenting with negative cognitions, moods and behaviors. *Anger,* as mentioned, might provide a good example of this.

The following section will describe and discuss the comparison between the stimulant and non-stimulant subgroups.

4.5 Comparison between Stimulant and Non-stimulant user subgroups

The two Drug of Choice (DOC) groups were categorised as those using stimulants (for example Cocaine and Crack Cocaine) and those using non-stimulants (for example Alcohol, Cannabis and Heroin). The groups were of similar sizes, namely 16 stimulant users and 17 non-stimulant users. The percentage of participants in each subgroup who were reported to present with each theme was compared across the four time-points (see Tables 4.6 & 4.7). For each category, differences across the two subgroups are reported first, followed by similarities. First, the positively valenced themes are compared.

On three of the positively valenced themes, the stimulant group demonstrates noticeably greater variability or lability than the non-stimulant subgroup. The non-stimulant subgroup showed remarkable stability for the *At ease* theme, remaining at 88% at all four time-points. The stimulant subgroup's presentation of this theme starts at 94% and then drops to 81% where it stays for Weeks 4 and 6. At Week 8 it drops again to 69%. Although this does not seem particularly unstable, it does contrast with the marked stability of the alternative group. *Optimistic* and *Pro-social* are relatively stable over the four time-points in the non-stimulant subgroup. Although *Optimistic* drops by 18% between Weeks 1 and 4, this is expected given the overall tendency for numbers to be high at Week 1. Thereafter, however, *Optimistic* remains at 35% at all subsequent time-points. In the stimulant subgroup, *Optimistic* drops by 31% between Weeks 1 and 4, then increases by 12% at Week 6 and again by 13% at Week 8. *Pro-social* for the non-stimulant subgroup remains at 35% at Weeks 1 and 4 and then gently increases reaching 41% and 47% at Weeks 6 and 8 respectively.

Table 4.6 *Number of stimulant clients presenting with each theme per week sampled*

Categories	**Week 1**		**Week 4**		**Week 6**		**Week 8**	
POSITIVE	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
At Ease	15	94	13	81	13	81	11	69
Engaged	15	94	11	69	12	75	13	81
Euthymic	16	100	12	75	12	75	12	75
General improvement	11	69	10	63	8	50	7	44
Good space	11	69	12	75	14	88	13	81
Grounded	6	38	9	56	13	81	6	38
Health Promoting	7	44	3	19	2	13	4	25
Motivated	13	81	7	44	7	44	6	38
Optimistic	8	50	3	19	5	31	7	44
Positive mood	1	6	2	13	3	19	1	6
Pro-social	10	63	8	50	8	50	3	19
Social	13	81	6	38	5	31	3	19
NEGATIVE								
Anger	5	31	10	63	8	50	7	44
Anxiety	7	44	3	19	7	44	5	31
Attitude	2	13	3	19	3	19	0	0
Bad Space	1	6	0	0	0	0	1	6
Concern	0	0	0	0	0	0	1	6
Cravings	0	0	1	6	2	13	0	0
Depressed mood	2	13	5	31	6	38	5	31
Deterioration	0	0	0	0	3	19	4	25
Emotional	4	25	2	13	6	38	3	19
Final warning	0	0	0	0	1	6	0	0
Illness	2	13	0	0	2	13	2	13
Negative thinking	2	13	1	6	4	25	0	0
Not engaged	4	25	2	13	2	13	3	19
Obsessive	3	19	1	6	2	13	0	0
Pain	0	0	1	6	2	13	0	0
Paranoia	1	6	0	0	0	0	0	0
Relapsed	0	0	0	0	0	0	0	0
Rule breaking	1	6	2	13	3	19	0	0
Sent back to primary	0	0	2	13	0	0	0	0
Sleep disturbance	1	6	2	13	0	0	1	6
Thoughts of leaving	0	0	1	6	2	13	1	6
Tired	11	69	8	50	5	31	4	25
Tough week	0	0	0	0	1	6	0	0
Under the radar	7	44	1	6	2	13	1	6
Vulnerable	2	13	0	0	0	0	1	6
Warning	0	0	0	0	1	6	0	0
Withdrawn	7	44	5	31	4	25	4	25
NEUTRAL								
Pensive	2	13	6	38	5	31	3	19
Quiet	6	38	4	25	6	38	5	31

Table 4.7 *Number of non-stimulant clients presenting with each theme per week sampled*

Categories	**Week 1**		**Week 4**		**Week 6**		**Week 8**	
POSITIVE	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
At Ease	15	88	15	88	15	88	15	88
Engaged	16	94	13	76	16	94	14	82
Euthymic	16	94	14	82	16	94	16	94
General improvement	11	65	11	65	14	82	7	41
Good space	13	76	17	100	14	82	17	100
Grounded	13	76	9	53	7	41	12	71
Health Promoting	6	35	3	18	3	18	4	24
Motivated	12	71	7	41	8	47	9	53
Optimistic	9	53	6	35	6	35	6	35
Positive mood	1	6	2	12	3	18	1	6
Pro-social	6	35	6	35	7	41	8	47
Social	15	88	8	47	6	35	9	53
NEGATIVE								
Anger	5	29	9	53	9	53	8	47
Anxiety	13	76	5	29	6	35	7	41
Attitude	0	0	1	6	3	18	1	6
Bad Space	0	0	2	12	3	18	1	6
Concern	0	0	1	6	1	6	2	12
Cravings	1	6	0	0	1	6	0	0
Depressed mood	6	35	7	41	9	53	9	53
Deterioration	0	0	0	0	2	12	0	0
Emotional	6	35	5	29	3	18	5	29
Final warning	0	0	0	0	1	6	0	0
Illness	0	0	0	0	2	12	1	6
Negative thinking	2	12	1	6	0	0	1	6
Not engaged	4	24	4	24	4	24	5	29
Obsessive	0	0	0	0	1	6	1	6
Pain	2	12	2	12	0	0	3	18
Paranoia	0	0	0	0	1	6	1	6
Relapsed	0	0	0	0	1	6	0	0
Rule breaking	1	6	3	18	3	18	1	6
Sent back to primary	0	0	0	0	2	12	0	0
Sleep disturbance	4	24	2	12	2	12	0	0
Thoughts of leaving	1	6	1	6	1	6	1	6
Tired	10	59	8	47	7	41	10	59
Tough week	0	0	0	0	2	12	0	0
Under the radar	4	24	5	29	3	18	2	12
Vulnerable	2	12	4	24	1	6	0	0
Warning	0	0	3	18	0	0	0	0
Withdrawn	8	47	7	41	2	12	3	18
NEUTRAL								
Pensive	7	41	1	6	5	29	5	29
Quiet	11	65	6	35	12	71	10	59

In contrast, for the stimulant subgroup, this theme drops by 13% from Weeks 1 to 4 where its remains stable at 50% for Weeks 4 and 6, but then drops quite dramatically at Week 8 to 19%.

There is an opposite pattern for *General improvement,* whereby the stimulant subgroup presents with a gradual decrease in *General improvement* over the four time-points whereas the non-stimulant subgroup seems more variable. The latter subgroup remains stable at 65% for *General improvement* at Weeks 1 and 4, increases by 17% at Week 6, while at Week 8 it drops notably by 41%.

In terms of similarities between the DOC subgroups, *Health promoting* showed similar numbers across both subgroups in Week 1, with both subgroups dropping at Week 4. The non-stimulant subgroup stayed at 18% for Weeks 4 and 6 while the stimulant subgroup dropped slightly between Weeks 4 and 6 from 19% to 13%. Both groups then increased again with the non-stimulant subgroup at 24% at Week 8 and the stimulant subgroup at 25%. *Positive mood* showed strong similarity between subgroups, with both presenting at Week 1 with 6%. They then increased to 12% and 13% at Week 4 (stimulant and non-stimulant subgroups respectively) 18% and 19% at Week 6, and both to 6% again at Week 8. The *Euthymic* theme, while showing a slightly different pattern between subgroups, is nonetheless fairly stable for both. The stimulant subgroup starts at 100% in week one whereas the non-stimulant subgroup starts at 94%. They both then drop at Week 4. The non-stimulant subgroup drops to 82% and thereafter returns to 94% where it remains for all remaining time-points. The stimulant subgroup drops a little more at week 4 (to 75%), but remains there for all subsequent time-points. Both subgroups therefore seem to be generally stable for this theme over the duration of treatment.

With regards to differences in the negatively valenced themes, there are notably more clients presenting overall with the *Negative thinking* and *Obsessive* themes in the stimulant subgroup than in the non-stimulant subgroup, looking at all time-points together. This must be interpreted cautiously and may be coincidental, but both these themes relate to cognitive processes and so it is perhaps interesting that a difference exists for both of these themes between the two groups. It seems reasonable to assume that at least some of the obsessional thinking may have been negative, which may in

part explain the similarity. It can be noted that *Paranoia,* also a cognitive construct, is more prevalent in the non-stimulant group, although very weakly presented overall. Further, *Pensive,* which is both cognitive and more prevalent, shows no notable difference in presentation between the two groups. It may be that *Paranoia* is more a trait characteristic, quite specific and bound to one or two individuals, and therefore infrequently recorded. *Negative thinking,* on the other hand is a more generic theme comprising various instances of similar observations and so perhaps more frequently recorded. *Pensive,* a neutral theme referring to individuals seemingly engaged in thought might be expected to be relatively evenly distributed.

In the negatively valenced themes, the *Thoughts of leaving* theme was very stable for the non-stimulant subgroup, remaining at 6% at all time-points, while for the stimulant subgroup it started at 0% at Week 1, climbed to 6% at Week 4, then again to 13% at week 6, dropping again to 6% at Week 8. *Under the radar* starts noticeably higher in the stimulant subgroup at 44% vs. 24% for the non-stimulant subgroup. It then drops dramatically at Week 4 to only 6%. At the same time, for the non-stimulant subgroup, this theme has increased very slightly by 5%. At Week 6, the stimulant subgroup increases to 13% while the non-stimulant subgroup drops notably to 18%. Both subgroups then drop by 6% to 6% and 12% respectively. It seems that one could think of both of these themes as avoidant. *Thoughts of leaving* would appear to involve cognitive engagement with fantasizing about or even planning to leave treatment. *Under the radar* refers more to behaviors around actively avoiding being seen or engaged by others, particularly staff. Perhaps the greater variability in the stimulant subgroup could reflect that, although both subgroups engage in avoidant behaviors, for the stimulant subgroup, these behaviors are more reactive or contingent upon internal and external cues.

With respect to similarities across subgroups in the negatively valenced themes, *Anger* was reported in Week 1 at 31% and 29% for the stimulant and non-stimulant subgroups respectively. At Week 4, the stimulant subgroup increased to 63% while the non-stimulant subgroup increased to 53%. Week 6 saw similar numbers with the stimulant subgroup having dropped to 50% while the non-stimulant subgroup remained at 53%. At Week 8, both subgroups dropped slightly again to 44% and 47% for the stimulant and non-stimulant subgroups respectively. The *Final warning* theme

for both subgroups is identical over the four time-points. Both are 0% for Weeks 1 and 4 and then hit 6% at Week 6. At Week 8, both have dropped again to 0%. A final warning is relatively rare and quite extreme, so it is perhaps to be expected that the numbers are generally very low for this theme. It is interesting, however, that both instances of *Final warning* occur in the same week (Week 6) for both subgroups. Looking again at the Axis II subgroup we see that both of the instances of *Final warning* were in the Axis II subgroup. Again one might tentatively say that more extreme behaviors might be expected from the Axis II group. Similarly, it is noted that where the *Anger* theme reported differently between the Axis II and non-Axis II subgroups, the same disparity is not seen here. This may be a function of the fact that the Axis II and non-Axis II participants are more or less equally distributed between the stimulant and non-stimulant subgroups.

Neither subgroup presents with *Deterioration* in Weeks 1 or 4. This may be a function of the fact that report writers might need time to establish a baseline for an inpatient, relative to which they can be judged to deteriorate over time. At Week 6, the frequencies for both subgroups increase noticeably, with the stimulant subgroup going from 0% to 19% and the non-stimulant subgroup going from 0% to 12%. It is noted that this follows the general trend where we expect to see an increase across most themes at Week 6.

The neutral category was marked by both similarity in general instability of the numbers, and difference in the presentation of this instability. For example, at Week 1 the *Pensive* theme is reported for 13% of the stimulant subgroup as opposed to 41% of the non-stimulant subgroup, a noticeably different presentation. Both then change dramatically at Week 4 with the stimulant subgroup increasing by 25% and the non-stimulant subgroup decreasing by 35%. At Week 6, the stimulant subgroup drops slightly to 31% while the non-stimulant subgroup increases again by 23%. At Week 8, the non-stimulant subgroup remains at 29% whereas the stimulant subgroup drops noticeably to 19%. When comparing the Axis II and non-Axis II subgroups, it was suggested that there might be some similarity in the fluctuations of *Quiet* and *Pensive* for both sub-groups, supporting the suggestion of a relationship between the two themes. However, here we see a difference between the subgroups, challenging this suggestion. Further, it is noted that overall, nearly twice as many of the non-stimulant

subgroup are reported as *Quiet*, whereas similar numbers are reported as *Pensive* between both subgroups.

Comparing the two DOC subgroups, one sees a similar difference in variability in the positive categories to what was seen between the Axis II and non-Axis II subgroups, with the stimulant group showing more variability. Like the Axis II and non-Axis II subgroups, there is far less difference in variability between the Negative categories for the stimulant vs. non-stimulant subgroups, in fact even less so. Further, when comparing the Axis II and non-Axis II subgroups it was noted that, although it might have been expected that the *Illness* and *Pain* themes would be correlated, the opposite was found. Here, once again, the same pattern is seen. The stimulant subgroup has twice as many participants presenting with *Illness* over the sampled weeks than the non-stimulant subgroup, while the non-stimulant subgroup has twice as many participants presenting with *Pain* than the stimulant subgroup. Again an apparent similarity is seen between the Axis II and stimulant subgroups and the non-Axis II and non-stimulant subgroups, in spite of the overall sample being evenly represented between subgroups, which raises the question: Are there common factors or is this coincidental?

4.6 Chapter Summary

In this chapter, the process of extracting and categorising themes from the data was described followed by an analysis of the overall trends in the frequencies of these categories across all time-points. The most prominent individual themes at each time-point were then discussed, compared and contrasted. Finally, comparisons were made between two sets of subgroups, the Axis II and non-Axis II subgroups, and the stimulant user and non-stimulant user subgroups.

The findings will be summarised and integrated in the next chapter, and limitations and implications of the study will be considered.

CHAPTER FIVE: CONCLUSION

This chapter will summarise the main findings and attempt to integrate them with the literature where relevant, drawing tentative conclusions where possible. Some suggestions are made as to where the findings might be relevant to the enhancement of addiction treatment. First the findings from the analysis of frequencies of themes and categories across time-points will be discussed, followed by a discussion regarding the comparison of the Axis II and non-Axis II subgroups, and the stimulant user and non-stimulant user subgroups. The limitations of the study will then be examined, and finally, there will be some brief suggestions regarding possibilities for further study.

5.1 Summary of findings and integration with literature

An overall trend is that the highest theme frequencies across the Positive, Negative and Neutral categories fall in Week 1. It is suggested that this might be related to the enthusiasm of newcomers and to their possible visibility relative to later time-points. It is further suggested that newcomers might have been more scrutinized by report writers and that visibility and scrutiny may, in fact, be important factors in frequency fluctuations generally.

Another trend is that the positively valenced themes are far more prominent across all time-points than the negatively valenced and neutral themes, and noticeably so at Week 1. It is suggested that this might be related to general euthymia as a result of abstinence from substance use and as a result of pharmacological treatment. It is proposed that the marked prominence of positively valenced themes in Week 1, over and above the already mentioned possible factors around Week 1, may be related to newcomers being on their 'best behavior'.

Hanna and Ritchie (1995) anticipate a 'pervasive sense of well-being' following second order change, and it may be that the relatively high frequency of positive themes, both in Week 1 and in general, is a function of changes that have taken place in primary stage treatment. The fact that the frequencies of positive themes tend to drop off notably after Week 1 could, in part, be a function of clients having to face new obstacles and having to work on further change. It is, however, noted that there is

a steady increase in the combined *Euthymic/Good space* theme. It is suggested that this could be a function of abstinence, the efficacy of medication and the efficacy of the treatment programme itself. However, it seems possible that it might also reflect a general increase in a pervasive sense of well-being over time as a function of change; as more clients experience second order change as a function of time in treatment, more reports of *Euthymic/Good space* are made in the client case files. Although the sum of frequencies in the Positive category is not highest at Week 8, (it is highest at Week 1 followed by Week 6), it is noted that the negatively valenced themes are at their lowest at Week 8, which could arguably also reflect a prevalence of a general sense of well-being at the end of treatment. It may, however, simply indicate that 'negative subjective states' are declining, or being recorded less often.

Also associated with second order change, Hanna and Richie (1995) anticipate 'negative subjective states', namely fear, confusion, depression and anger. The data suggests no evidence of a specific period that might reflect a pervasive sense of well-being prior to which one might expect to see some of these negative subjective states. Although 'confusion' was not reported to the degree where it emerged as, or became associated with, a theme, 'anger' did emerge as a theme. Depression and fear did not emerge per se, but *Depressed mood* and *Anxiety* did.

Anger becomes noticeably prominent at Week 4 and it is suggested that this might be related to programme content taking its toll. This seems reminiscent of an element of Lewis and Rook's (1999) description of the dynamics of Social Control. Lewis and Rook (1999) suggest that 'frustration' could be the outcome of being discouraged from engaging in health-compromising behaviors. One might, therefore view this prevalence of *Anger* as consistent with literature regarding change and supportive of Lewis and Rooks (1999) assertion, that is, the prevalence of *Anger* at Week 4 might be a function of change.

Anxiety, possibly synonymous with fear, is highest at Weeks 1 and 8. It is suggested that this may be related to admission and discharge dates - that admission might provoke anxiety for reasons around unfamiliarity with a new setting, and that discharge might provoke anxiety around re-entering normal life. This interpretation

seems to make intuitive sense, but again, given the results of previous research, one cannot ignore intrapersonal change as a factor in reported observations of *Anxiety.*
It is proposed that *Depressed mood*, most prominent at Week 6 is not a function of clinical depression, on the grounds that expected correlates of depression like *Tired, Withdrawn* and *Sleep disturbance* are not similarly elevated at this time-point. It seems possible that *Depressed mood* might again reflect the negative subjective states associated with second order change. Pos, Greenberg, Goldman and Korman (2003) see tolerating and reflecting on emotional experience as essential to change. It is proposed that at Week 6, the data, specifically the frequencies of *Engaged, Quiet and Pensive,* suggest an increase in reflective processing by clients at this time-point. It may be that *Engaged, Quiet, Pensive* and *Depressed mood* are all suggestive of, and/or associated with, second order change as described in the literature.

Tired and *Sleep disturbance* gradually decease over the duration of treatment, which may be a function of sleep hygiene, and a relationship between these themes is suggested. The literature associates sleep disturbances with Protracted Withdrawal Syndrome, the symptoms of which would be expected to set in at between 4-8 weeks of abstinence. This would generally equate to Weeks 1 to 4 in the current study. Further, insomnia is associated with 'The Wall', expected to set in at 6-17 weeks. The numbers in this study suggest that, for a number of clients, both tiredness and disturbed sleep have set in by the start of secondary stage treatment and improve steadily from there on. Also associated with Protracted Withdrawal Syndrome, is anxiety, which, if reflected by the *Anxiety* theme, is also highest at Week 1. Irritability is further associated with 'The Wall' and may conceivably contribute to the high frequency of *Anger* at Week 4, although 'The Wall' is associated with stimulant withdrawal and the data indicate a similarity between the stimulant and non-stimulant subgroups in the number of clients reported with *Anger.* Other than this, there is no clear evidence of the other signs of Protracted Withdrawal Syndrome i.e. concentration difficulties, cravings, autonomic disturbance or pessimistic thoughts. Pessimistic thoughts would seemingly be embodied by *Negative thinking* and could possibly be related to *Thoughts of leaving,* but the frequencies of both these themes are very low. Research has associated 'good humour' with abstinent alcoholics relative to abstinent non-alcoholics, and the *Positive mood* theme does embody expressions of humour, but again, the frequencies are consistently low. Finally,

Cravings was included in this study as a theme as it seemed an important indicator in terms of recovery from addiction. However, this theme too is reported with consistently low frequencies.

It can tentatively be suggested that there is some evidence in the data to support previous findings outlined in the literature regarding change, and in particular, second order change. There may also be indications of Protracted Withdrawal Syndrome and/or 'The Wall'.

A better understanding of these process dynamics might be useful in enhancing addiction treatment. For example, if evidence for the negative subjective states associated with change were strengthened and well defined, then these might be recognised in the future as possible indicators of client progress, whereas individuals showing none of these indicators might raise concerns that they are not engaging with programme material effectively or that they may need assistance or guidance. It may also be useful if programme staff had a richer understanding of process dynamics: for example, what they may perceive as negative presentations that might otherwise be understood as defiance, may be interpreted as possible indications of engagement and second order change. The results of this study also indicate a possible need for programme staff to anticipate and address anxiety amongst patients around admission and discharge. Further research might uncover time specific dynamics that could be similarly useful. At the very least, a richer understanding of process dynamics might open up the interpretive repertoire or scope of reflexivity of programme staff.

What follows is a discussion of the findings from the comparison between the Axis II and non-Axis II subgroups, and between the stimulant user and non-stimulant user subgroups.

When comparing the Axis II and non-Axis II subgroups, it was seen that there is more variability or lability in percentage fluctuations in the Axis II subgroup, and that these are most pronounced for the positively valenced themes. It is suggested that this could be consistent with the expected characteristics of individuals with Axis II personality traits, especially those with Cluster B traits, which are strongly represented in the

Axis II subgroup in this study. *Anger* was observed to be more stable in the Axis II subgroup, which again is possibly consistent with what might be expected.
It is proposed that health promoting behaviors may be more rewarding to the non-Axis II group, as the number of Axis II participants reported with *Health promoting* dropped steadily and noticeably over the duration of treatment. It is asserted in literature on the Transtheoretical Model that substituting alternatives for problem behaviors might be indicative of the *preparation* and *action* stages of change (Fisher & Roget, 2009). It is possible that the *Health promoting* theme may embody elements of 'substituting alternatives', which invites the question as to whether non-Axis II clients were more likely than Axis II clients to have moved beyond the *contemplative* stage.

The Axis II subgroup appears to have been more anxious than the non-Axis II subgroup at termination. It is proposed that this is possibly a function of greater rigidity in personality functioning on the part of the Axis II subgroup, and that the prospect of leaving treatment might have felt more threatening to them.

It is noted that, in these subgroups, *Pain* and *Illness* are not related to each other as might be expected, and that far more Axis II participants were reported with *Illness* whereas more non-Axis II participants were reported with *Pain.* This seemed both striking and interesting. It may be coincidental, but may also bear further investigation.

Comparing the stimulant user and non-stimulant user subgroups proved more difficult in terms of suggesting possible explanatory factors, because while the Axis II subgroup has a number of known possible implicit characteristics compared to the non-Axis II subgroup, this is not true of the former subgroups. We can assume nothing about these subgroups beyond what category of substances they were being treated for. It is, however, suggested that the stimulant group may be more reactive in terms of avoidant strategies and that this could be evidenced by noted differences in the frequency patterns of *Thoughts of leaving* and *Under the radar*.

Exploring the stimulant and non-stimulant subgroups, the most striking discovery is the apparent similarity between the stimulant user and Axis II subgroups, and the non-

stimulant user and non-Axis II subgroups. This is seen in the difference in variability between subgroups, and in the distribution of the *Pain* and *Illness* themes. Interestingly, 7 of 13 Axis II participants and 9 out of 20 non-Axis II participants were stimulant users, so these similarities are not due to overlap between the two subgroups, that is to say, the sample is evenly distributed amongst categories. One tentative conclusion is that, for this sample, Axis II personality traits do not seem to mediate drugs of choice.

The comparison of subgroups indicates that there may be both differences and similarities between them. This requires further investigation, but if it were true that different subgroups had predictable characteristics then this might be useful in terms of treatment, for example with regard to the use of matching hypotheses. Although research has indicated no benefit to matching individual characteristics to specific treatment approaches, it may at least be of benefit if treatment staff were able to pre-empt pitfalls by anticipating them. For example if stimulant users were more likely to be avoidant when distressed, treatment staff might know to pay close attention to these individuals at such times to ensure that they remained engaging with programme material.

Overall, it would seem that there have been dynamic changes in general client functioning over the duration of treatment, with certain themes showing marked changes at times. *Anxiety* is prevalent at Weeks 1 and 8. *Anger* is prevalent at Week 4 and *Depressed mood* is prevalent at Week 6. The *Euthymic/Good space* theme steadily increases over time while *Tired* and *Sleep disturbance* steadily decrease. Developing a richer understanding of such dynamics may prove very useful in developing our understanding of the process of recovery from addiction. Further, there may be both similarities and differences between subgroups that may shed light on the use of matching hypotheses in the context of addiction treatment. It would seem therefore that this study has indicated that further research may well be warranted and may result in a knowledge base that could enhance the treatment of substance use disorders and possibly addictions in general.

5.2 Limitations

There are a number of limitations that must be borne in mind while considering these findings. It must first be acknowledged that as a case study, this research is context specific. It is recognized that any findings in the research study pertain to the treatment facility at which the research was conducted only and, even more specifically, to the immediate participants. Lincoln and Guba (2002) draw attention to the limited generalisability of case studies (as cited in VanWynsberghe & Khan, 2007). It cannot be assumed that the study's findings can be extrapolated to outside settings or to addicts in treatment elsewhere, in the absence of further research. The study was motivated by the very real problems faced in this country with regards to substance use and related issues. However, only 3 of 33 participants at the treatment centre were South African. Further, given the cost of private addiction treatment, it is perhaps not surprising that the 3 South Africans in the sample were at best representative of less than 10% of the county's population. This further limits the degree to which extrapolations can be made in the local context. Replicating this study at local addiction treatment centres with more South African patients would be very valuable.

Another limitation concerns the reports themselves and the fact that they were written by a number of different individuals. For example, it is difficult to control for different styles of reporting or different foci of observation. Related to this, it has been discussed that visibility and scrutiny are suggested factors that might influence the frequencies of reported observations.

There were no statistical analyses done on the data set and as such, patterns emerged as a function of the researcher's judgment only. There is no way of assessing the degree to which any perceived patterns reflected or were a function of statistically significant changes in client functioning. Further, the small sample size made such interpretations even more difficult. This is easily illustrated by the fact that with small numbers, relatively minor changes translate into percentages that may subjectively appear far more significant than they actually are.

It has been mentioned that the themes in this study arose as a function of the researcher's personal judgement. Due to the implicit subjectivity involved, I had to attempt at all times to remain mindful of potential bias.

As an employee of the treatment facility at the time of the study I may have been biased by preconceived ideas and knowledge of the clients, outside of what was merely reported in the case files. Not only did I spend time interacting with and/or observing clients, I also participated in formal and informal discourses amongst staff in which complex co-constructions regarding clients may have been made, which would likely have been subjective in nature and may have potentially influenced my thinking. I also contributed to some of the client reports, which may have similarly created some bias. During the analysis I used client numbers as opposed to names in an attempt to disassociate data from identities. At no point during the analysis was I aware of either the identity of participants relative to themes, or of my personal contributions to the data set.

The processes of data collection and theme generation are long and time consuming. Since every work session is bound to influence subsequent work sessions, I was aware of the potential for subtle shifts in methodology to develop over time. With this in mind, I attempted to be systematic and methodical, and attempted to regularly cross-reference my work with previous iterations and reflect on my thinking for consistency.

It is important to recognise that even with the best practice of reflexivity, the themes that arose and the interpretation of the data remain a function of subjective judgment and should be appraised as such.

5.3 Recommendations for future research

This study was exploratory in the sense that it was not modeled on any previous research on process dynamics in addiction treatment. The findings seem to indicate that there are observable factors that may be relevant to addiction treatment. The first recommendation for further study would be to work with a larger sample or samples, and possibly across several settings. A larger sample could yield numbers that might be more meaningful and lend themselves to clearer interpretation or discernment of

patterns in the data, and to statistical analysis. Working with multiple settings might broaden the degree to which findings could be extrapolated to addiction treatment in general and to general populations. Becker (2000), Smaling (1987) and (Yin) 2003 assert that comparing and contrasting multiple case studies strengthens generalisability (as cited in VanWynsberghe & Khan, 2007).

One of the limitations regarded the personal judgments made by the researcher in interpreting data patterns. If future research designs allow for the statistical analysis of data this would address some of the limitations inherent in making personal judgments regarding the significance of changes in reported observations over time or between different categories of observation at one time.

Much of what emerged from the data seemed possibly to link to literature on various models of change. It would be useful in future to assess the success of treatment relative to observations of process dynamics. One way to assess success would involve follow-ups like those conducted in outcomes based studies, of which there are many. Certain observations have been suggested as correlates of change and if this is so, it might be evidenced by duration of abstinence after discharge, for example.

There is evidence in the data suggesting both differences and similarities between various subgroups. The limitations of this study make it difficult to know whether this is random coincidence. Further investigation seems important as knowledge gained could facilitate the implementation of matching hypotheses in the addiction treatment setting.

5.3 Chapter Summary

The analysis of frequencies of themes and categories across time-points suggests evidence to support previous findings outlined in the literature regarding change, and in particular, second order change. There may also be indications of Protracted Withdrawal Syndrome and/or ‘The Wall’. It is proposed that further research may expand our knowledge of process dynamics and that this may be useful in the enhancement of addiction treatment. For example, process dynamics could potentially be used as indicators of progress. Certain dynamics might prove to be time specific and allow for anticipation and intervention by programme staff.

The analysis of the comparison of subgroups indicates possible differences and similarities between them that may warrant further investigation. Future findings could prove useful in the employment of matching hypotheses within the context of addiction treatment if the current findings could be substantiated and/or expanded upon. Based on the analysis of the comparison of subgroups, it is tentatively concluded that, for this sample, Axis II personality traits do not mediate drugs of choice.

Although the current study has yielded some potentially useful findings, it has been limited with regard to generalisability, even to the local context. Limitations have also been highlighted regarding potential biases, the small sample size, limited local representivity, and the lack of a statistical analysis. It is suggested that further research should address these limitations and that future studies include multiple local addiction treatment settings in an attempt to increase local generalisability. It is further suggested that future research includes an outcomes component such that correlations between process data and efficacy of treatment can be investigated.

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Appendix 1

Participant Consent Form

To whom it may concern

I am embarking on a research project to examine patterns in the recovery process of clients at the [treatment facility] especially around the time of nine weeks into treatment i.e. since starting primary care. To this end I would like to examine the client reports that are updated several times daily by both the counselors and recovery assistants (R.A.'s). The names of clients and the specific details of their treatment are not relevant to the study and client confidentiality and anonymity will be protected at all times before, during and after the study. Client names will not be recorded. If at any point a client who has granted permission for their reports to be utilized in the study changes their mind for any reason whatsoever, their wishes shall be respected without question. Any questions regarding the study are welcome.

Yours sincerely,

Nic Hazell

I _____ hereby agree and consent to my treatment records being studied for the purposes of the above stated research project. I understand the nature of the research and that my confidentiality and anonymity will be protected at all times. I also understand my right to withdraw my consent at any point.

Signed _____

at _____ on the ____day____ month _____ year.