

2010

The psychotherapy of drug dependence: changes in core conflictual relationship themes

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Recommended Citation

Ciaglia, Danielle, The psychotherapy of drug dependence: changes in core conflictual relationship themes, Doctor of Psychology thesis, University of Wollongong. School of Psychology, University of Wollongong, 2010. <http://ro.uow.edu.au/theses/3206>

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**The Psychotherapy of Drug Dependence: Changes in Core Conflictual
Relationship Themes**

A thesis submitted in partial fulfilment of the requirements for the award of the
degree

Doctor of Psychology (Clinical)

at the

University of Wollongong

Danielle Ciaglia
BSc (Psych) Hons (UW)

School of Psychology

2010

Certification

I, Danielle Ciaglia, declare that this thesis, submitted in partial fulfilment of the requirements for the award of Doctor of Psychology, in the School of Psychology, University of Wollongong, is wholly my own work unless otherwise referenced or acknowledged. The document has not been submitted for qualifications at any other academic institution.

Danielle Ciaglia

Acknowledgements

I would like to take the opportunity to acknowledge the assistance provided by many people throughout my candidature. First of all, I would like to express my gratitude to those individuals working within the University of Wollongong that were involved in this research project. Professor Brin Grenyer, as my supervisor, and Lisa Parker, as my co-supervisor, have provided guidance and expertise in this area of research. Furthermore, the work of late Lester Luborsky, is worth noting since it has been a constant source of inspiration in the development of this project and in my delivery of psychotherapy in general.

A great number of people have also facilitated my progress with this research project. I would like to mention my work colleagues who have supported my ongoing professional development. I would also like to express my deepest appreciation and gratitude for the unwavering support, patience, understanding, and encouragement that I have received over the years from my sister Natalie, my brother Mitchell, my partner Scott, my parents, and my Uncle Ange.

Abstract

Understanding and resolving relationship conflicts may be a particular benefit for people presenting to psychotherapy for drug dependence issues. This project sought to empirically support this notion by investigating the process-outcome links of cannabis users by measuring changes in Core Conflictual Relationship Themes (CCRT) and their association with psychological outcomes following psychotherapy. Study 1 began this endeavour by observing changes in the CCRTs of one cannabis user undergoing 16 sessions of Supportive-Expressive Dynamic psychotherapy. Clinically relevant changes were observed most notably in the Wish and Response of Self components of the CCRT, where flexible, harmonious, and positive themes occurred over time. An association between this improvement was observed with reduced depressive and anxiety symptoms, greater global functioning, less psychological symptoms, and importantly cannabis abstinence. Study 2 expanded on these single case findings by measuring the CCRTs of 24 cannabis users in psychotherapy. Relationship patterns of cannabis users were found to be significantly modifiable. This was true with the Response of Other component, which showed improved rigidity, Harmony, and Valence of the relationship patterns. The Response of Self component also showed greater Harmonious and positive Valence interactions following psychotherapy. Both CCRT components were significantly associated with symptom alleviation and improved functioning. The Wish component demonstrated a refractory nature with rigid, but relatively Harmonious, patterns. The utilisation of a second tool to measure less conscious CCRT Wish components added greater scope with which to understand this unchanging nature. For this sample, interpersonal effectiveness was an appropriate drug-treatment focus and facilitated good outcomes.

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Chapter 1 - Introduction

Drug Dependence

Cannabis is estimated to be the most commonly used illicit drug with a 5 percent lifetime rate of abuse or dependence (Diagnostic and Statistical Manual of Mental Disorders, 2000; Chen, O'Brien, & Anthony, 2005; Compton, Grant, Colliver, Glantz, & Stinson, 2004; Rehm, Room, van den Brink, & Kraus, 2005; Nocon, Wittchen, Pfister, & Zimmermann, 2006). Not surprisingly then, some studies have focused on the effects of such dependence. For example, heavy use may result in subtle impairments in higher cognitive functions (Solowij, 1998; Solowij et al., 2002; Grant, Gonzalez, Carey, Natarajan, & Woifson, 2003; Piechatzek et al., 2009). Of a less subtle nature however are impairments in psychosocial areas. For example, unsatisfactory relationships, difficulties in relationships with parents, feelings of insecurity, fear of intimacy and commitment, low self-image, extreme introversion, and depression have been reported early on in a study of 150 cannabis users (Hendin, Haas, Singer, Ellner, & Ulman, 1987). Poor academic achievement, occupational proficiency, daily functioning, interpersonal relationships, and life satisfaction outcomes have also been associated with cannabis dependence (Solowij, 1998; Budney & Moore, 2002; Grenyer & Solowij, 2006; Fergusson & Boden, 2008; Eisen et al., 2002; Macleod et al., 2004). For those commencing at a younger age these effects may be considered detrimental to maturation and development (Kandel, Davies, Karus, & Yamaguchi, 1986; Fergusson & Boden, 2008; Fergusson, Horwood, & Beautrais, 2003). It is thought that heavy use during adolescence produces a developmental lag, entrenching thinking and behavioural patterns, which may inhibit the ability to relate to others (Baumind & Moselle, 1985; Kandel & Logan, 1984; Kandel et al., 1986). Furthermore, research has

demonstrated that significant cannabis use predicts reduced likelihood of marriage, increased risk of divorce, a higher rate of unplanned pregnancy, and pregnancy termination (Fergusson & Horwood, 1997; Newcomb & Bentler, 1988).

The extensive nature of problems relating to drug dependence has prompted researchers to find effective treatments (Barber et al., 2006). Such investigation has found support for effectiveness of psychotherapy treatment for drug dependence (Carroll, Nich, & Rounsaville, 1995; Higgins et al., 1994; Crits-Christoph et al., 1999; Budney, Moore, Rocha, & Higgins, 2006; The marijuana treatment project research group, 2004). Budney et al. (2006) reported that, relative to a Cognitive-Behavioural (C-B) intervention, rewarding cannabis users with a voucher with monetary value if they abstained from cannabis significantly resulted in increased levels of abstinence within a 14 week treatment period. However the C-B intervention, when combined with the vouchers, aided maintenance of abstinence (at 12 months follow-up). Although this was the most potent treatment condition only 37% of cannabis users remained abstinent after 12 months. Similarly, Stephens et al., (1994), compared 10 sessions of a C-B intervention with 10 sessions of group discussion. Both conditions showed significant reductions in cannabis use however, abstinence rates over 3, 6, and 12 months were 37%, 22%, 14%, respectively. Budney et al. (2006) comment that the initial abstinence and relapse rates observed across studies suggest that most individuals do not have positive outcomes in the long run.

Furthermore, Bühringer, Wittchen, Gottlebe, Kufled, and Goschke (2008) comment that previous research has primarily focused on factors influencing occurrence and progression of substance use disorders, and factors related to outcome following intervention. Although these researchers acknowledge the importance of these factors, they

suggest that there is limited information regarding the utilisation of these factors to improve treatment outcomes. Bühringer et al. (2008) therefore posit that there is limited understanding of contributing factors and their interplay within the psychotherapy of substance dependence. Indeed, very few studies have investigated the mechanism of change within treatments for drug dependence (Barber et al., 2006). Barber et al. (2006) emphasize the importance of understanding the effective ingredients of treatment in order to enhance treatment outcomes. Barber et al. (2006) hypothesized that adherence to, and competence in delivering, a treatment protocol in the psychotherapy of cocaine dependence predicted outcomes. It was found that moderate adherence to treatment protocol was associated with better treatment outcomes. However, it was adherence that was moderated by relationship factors (therapeutic alliance).

Despite claims that psychosocial treatments are effective for addressing drug dependence, the mechanisms of change remain largely unknown. Future research is needed to elucidate the important ingredients that contribute to clinical changes. Since interpersonal conflicts are thought to be central to cannabis users (Solowij & Grenyer, 2002; Grenyer & Solowij, 2006), models representing these concepts may be adopted in the quest to understand the process-outcome links in the treatment of cannabis dependence, and ultimately in the pursuit of psychological health and well-being. Despite the recognition of interpersonal effects and the role of these in helping overcome drug dependence, there is little research studying these processes in depth. New models and methods are required to shed light into process-outcome links in the treatment of drug dependence.

Relationship Patterns

The search for, and safeguarding of, human relatedness is considered to be a key motivating factor within all human beings (Levenson, 1995). The individual learns early that in order to maintain security and connection with others one must behave in certain ways (Bowlby, 1953). With this in mind, many psychological approaches have embraced an interpersonal perspective (Balint, 1949; Bowlby, 1953; Hinshelwood, 1997; Kernberg, 1996; Winnicott, 1957).

Early psychological viewpoints that valued the interpersonal perspective were the workings of Freud; in particular his accounts of transference (Freud, 1912/1958). Freud (1912/1958) referred to a 'transference template' and understood this to be a central relationship pattern that serves a schema for managing, shaping, and steering future relationships. This concept of transference, if it is rigid or stereotypical, helps clinicians clarify those parts of the patient's personality that contribute to the manifestation of psychological symptoms (Freud, 1926/1958).

Useful concepts stemming from the writings of Freud, and more broadly psychoanalysis, have been criticized for the resistance to empirical tests of its propositions and its anti-research stance: "Freud turned away from the careful empirical methods he used in the laboratory toward generalizations without presenting raw data" (Bornstein & Masling, 1998, p. xviii). This may have contributed to the decline of psychoanalysis in therapies, and limited access to treatment protocols that could empirically examine the transactions occurring in a psychoanalytic session.

Luborsky (1998a) has therefore noted that academic psychology has neglected to construct operational instruments to measure and observe central relationship patterns. Since

Freud, other psychoanalysts (French & Wheeler, 1963; Arlow, 1961), several researchers in the area of personality (Kelly, 1955; Tomkins, 1979), and object relations and attachment theory (Bowlby, 1973) have written about the existence of relationship patterns within the context of therapy (Luborsky, 1998a). Furthermore, literature in the area of social cognition and psychodynamic psychotherapy converge on the idea of schema (Crits-Christoph & Demorest, Muenz & Baranackie, 1994).

It seems that the deduction and implementation of a relationship pattern theory is common practice to many theorists and psychotherapists alike. Dynamic psychotherapists in particular believe that such a concept is essential for their therapeutic techniques. They are therefore willing to recognize the transference pattern and rely on the results of their clinical method of observation (Luborsky, 1998a). Hence, a task for Luborsky (1998a) has been to bridge the gap between the unguided reliance on clinical methods and an operational measure of inferring the concept of transference.

Discovered in the context of Luborsky (1977)'s research on the therapeutic alliance, a new measure of personality was created and named the Core Conflictual Relationship Theme (CCRT) method (Luborsky, 1977; Luborsky & Crits-Christoph, 1990; Luborsky & Crits-Christoph, 1998). The CCRT "is the central relationship pattern, script, or schema that each person follows in conducting relationships. It is derived from the consistencies across the narratives people tell about their relationships" (Luborsky, 1998a, p. 3). Inferences made by therapists are assisted by the CCRT and rely on three aspects of narratives about interpersonal interactions. The first aspect is the type of wishes, needs, and intentions concerning the other person in the interaction [W]. The second aspect is the responses from the other person in the interaction [RO], and the third aspect is the responses of the self [RS]

(Luborsky, 1998a). In the event that this core pattern is maladaptive or conflictual, the individual is likely to experience psychological symptoms (Luborsky, 1998a). For example, the response of other may interfere with the individual's wish actualization.

The narrative itself is termed the 'relationship episode' [RE] which "is a part of a session that is a relatively discreet episode of explicit narration about relationships with others or with the self" (Luborsky, 1998b, p. 16). All individuals have a CCRT pattern which is viewed to be unique and consistent (Book, 1998). The CCRT is therefore an operational measure and conceptual tool for tracking changes in relationships, and has acceptable levels of reliability (Luborsky & Diguier, 1998, 1995).

Luborsky (1998c) noted the similarity of the CCRT to Freud's transference template (Freud, 1912/1958) and this has been empirically validated. This greatly emphasizes the potential usefulness of the CCRT as an operational measure of psychotherapeutic processes and relationship style. Hence, reviewing the literature on the validity of the CCRT as a measure of transference appears apt. Luborsky et al. (1985) demonstrated the use of the CCRT when it was applied to sessions from psychotherapy. Here, it showed consistency with the central tenet of psychodynamic therapy: the transference concept. Other studies using the CCRT have provided empirical support for 9 of Freud (1912/1958)'s hypotheses (Luborsky, Crits-Christoph & Mellon, 1986). These hypotheses are (a) The individual has a tendency for one core transference pattern, (b) The pattern(s) can be found early in the individual's life, (c) These patterns originate from early interactions, (d) The patterns are likely to be based on sexual desires, (e) The patterns are distinct between individuals, (f) Individuals may not be conscious of their interpersonal pattern, (g) These patterns remain

stable across the lifespan, (h) There are limitations in the patterns changeability, and (i) The patterns are re-enacted with the therapist.

Similarly, Fried, Crits-Christoph, and Luborsky (1992, 1998) found significant similarity between a patient's relationships with their therapist and others in their life. A significant degree of similarity was also found between relationship patterns of ones family origin and those within a work situation (Polterock, 1996). The strongest correlation was in the responses of others component (Polterock, 1996). Connolly et al. (1996) demonstrated that interpersonal themes expressed by opiate dependent patients correlate significantly with the interpersonal pattern about the therapist. However, the re-enactment of the relationship theme with the therapist was not necessarily the most pervasive pattern expressed in the narratives about significant others. Later on, Connolly, Crits-Christoph, Barber, and Luborsky (2000) found that 33% of depressed patients demonstrated a significant association between the most pervasive theme evident from pre-treatment interpersonal narratives and the narratives about the therapist.

More recently, a study showed that 60% of patients display similar relationship patterns with their therapist and with significant others (Beretta et al., 2007). These researchers found that the patterns that were re-enacted with the therapist were not the most pervasive patterns however, they were similar to those interactions with partners or parents (Beretta et al., 2007). Their contemporary view holds that patients re-enactment of a specific interpersonal pattern with their therapist is not the same as the transference neurosis found in a psychoanalytic setting. Rather, a re-enactment is considered as a repetition of interpersonal schemas and conflicts, and may occur early in therapy (Beretta et al., 2007).

The CCRT has also been reliably applied to narratives of dreams (Popp, Luborsky, & Crits-Christoph, 1998). A high degree of similarity in CCRT components has been found between waking narratives and dreams (Popp et al., 1998; Popp et al., 1996): a transference observation that the central pattern occurs in multiple modes (Freud, 1912/1958). However, dream-based CCRTs were not significantly altered over therapy (Popp et al., 1998).

Conflicting results have been demonstrated regarding the similarity between transference and measures of relationship patterns. The similarity of relational themes between significant others and the therapist was not demonstrated in a study by Barber, Foltz, DeRubeis, and Landis (2002). There was substantial variability in relationship patterns across narratives about significant others (mother, father, same-sex best friend, and romantic partner). In a high functioning population, Tellides et al. (2008) found the response of self component to indicate a concordant relational transfer where patients exhibited a negative transfer response to both the therapist and significant others. Although these results appear similar to other findings, a disparate result was found with regards to the W and RO component. Here, a complementary pattern of relating was found in which the therapist was idealized and significant others were devalued.

Clinically relevant therapeutic changes have occurred when using the CCRT method to measure and understand relationship conflicts. Crits-Christoph and Luborsky (1998) initially discovered that the rigidity (or 'Pervasiveness') of relationship patterns showed small but meaningful positive changes over the course of psychotherapy. Kächele, Dengler, and Scheckenburger (1990) demonstrated the usefulness of the CCRT method when positive changes in the relationship pattern occurred following brief psychoanalytic psychotherapy. In contrast however, Wilczek, Weinryb, Barber, Gustavsson, and Asberg (2004) found that

relationship patterns did not change significantly over time. The cluster categories were rarely associated with changes in symptoms and character pathology. However, one may hypothesize that the use of a limited number of coding clusters for scoring and measuring the CCRT may have influenced the result. Thus, this scoring system may be less sensitive to measurement of change.

The use of the CCRT has also been implemented to explore relationship patterns in varying clinical populations, with individuals at different stages of development, and with individuals with drug use disorders. Patients suffering from bulimia perceive family relationships significantly different from normal controls; but not from subjects with a different diagnosis (Benninghoven, Schneider, Strack, Reich, & Cierpka, 2003). Child molesters were found to exhibit core issues involving control and autonomy relative to normal controls (Drapeau, 2004). Similarly, when the CCRT was implemented with patients with Borderline Personality Disorder, patients revealed less wishes to attend to others, viewed others as more loving and subjugating, felt dissatisfied and scared, and were less attacking relative to normal controls (Drapeau & Perry, 2004).

Waldinger et al. (2002) investigated relationship schemas of adolescents and young adults. Considerable stability was found in the frequency of particular themes occurring for both groups, and significant changes from adolescence to adulthood were found. Young adults exhibited a decrease in the perception of others as rejecting; they viewed themselves as less frequently opposing others. This group also viewed themselves and others more positively, and a broader repertoire of themes in their relationship narratives was used relative to adolescents. Agin and Fodor (1996) reported similar relationship patterns for

adolescent boys despite differences in treatment modality (Gestalt versus Rational Emotive Behaviour Therapy).

Some studies have applied the CCRT in an attempt to understand relationship dynamics of those with drug dependence. One study reported on the nature of relationship conflicts for an individual undergoing Supportive-Expressive (SE) Dynamic psychotherapy for THC cessation. It was noted that THC, to the user, “had been consistently used as a way of avoiding interpersonal problems” (Solowij, Grenyer, Chesher, & Lewis, 1995, p. 2129). Further clinical observation revealed that after ceasing THC, and completing the course of psychotherapy, the subject felt more settled in his relationship (Solowij et al., 1995). Later on, Grenyer and Solowij (2006) explored the nature of relationship conflicts for a cannabis user within the SE dynamic psychotherapy framework. As the CCRT pattern for the patient was addressed, and his interpersonal conflicts were resolved, his cannabis use, depressive symptoms and general functioning improved (Grenyer & Solowij, 2006).

Other recent studies have utilized the concept of the Core Conflictual Relationship Theme to understand the use, and cessation of, cocaine (Crits-Christoph et al., 2008; Crits-Christoph et al., 2001; Luborsky, McKay, et al., 1995). CCRT patterns were viewed as potential triggers for relapse or were related to avoidance of appropriate steps toward recovery (Crits-Christoph et al., 2008; Crits-Christoph et al., 2001; Luborsky, McKay et al., 1995). These studies report an improvement in social functioning after successful cessation of cocaine use, and also note the influence of the W regarding abstinence status.

Although these reports show early observation and preliminary measurement of relationship patterns of drug users, there are limited empirical studies investigating this area. Furthermore, it appears that the CCRT patterns of those with a psychiatric diagnosis, from a

specific clinical population, and at a different developmental stage are likely to exhibit unique characteristics in relationship patterns. A closer look at a specific drug dependence population, with a focus on relationship patterns, is needed in order to understand the diversity and nature of psychotherapeutic change.

The strong emphasis on relationship patterns in psychoanalytic practice renders research investigating relationships themes as clinically and empirically relevant. Wilczek et al. (2004) noted that despite evidence supporting the efficacy of psychodynamic psychotherapy, it remains unclear how work with relationship patterns results in symptom alleviation. Early studies have investigated the process-outcome links of psychotherapy with regard to the use of the CCRT method. As an initial method to test the validity of the CCRT, Luborsky et al. (1986) hypothesized that changes in the CCRT from early to late sectors of treatment will correlate with independent measures of treatment outcome. Using Pervasiveness across therapy as an index of change, these researchers found that as CCRT components (W, RO and RS) improved more favourable outcomes on the Hopkins Symptoms Checklist and Health-Sickness Rating Scale occurred (Luborsky, 1975). A similar finding has been reported by Baguet, Gerin, Sali and Marie-Cardine (1984) where positive changes in the CCRT significantly correlated with positive changes on the Health-Sickness Rating Scale.

Following this, Cierpka et al. (1998) found a positive correlation between relationship patterns and levels of pathology in the patient. More severe psychopathology (as exhibited by those in an inpatient group) demonstrated more pervasive relationship themes; those with less severe psychopathology, or from a non-clinical group, demonstrated less pervasive relationship themes. This was particularly true with the W component of the

CCRT. Albani et al. (1999) found a positive relationship between depression severity and negative responses from other.

Associations have also been found between positive changes in object relations and psychopathology following treatment (Crits-Christoph & Luborsky, 1998). Positive response components of relationship patterns have also been positively correlated with improvement in level of global functioning (Grenyer & Luborsky, 1996). Here, as mastery of relationship conflicts increased, symptoms abated and general functioning showed gains (Grenyer & Luborsky, 1996; Grenyer & Luborsky, 1998).

However, a subset of research reports a lack of association between relationship patterns and outcomes. Wilczek, Weinryb, Barber, Gustavsson, and Asberg (2000) did not find an association between CCRT and psychopathology. Only one association was found: patients' experience of social significance was significantly correlated with more negative responses of other. Thus, a report of a poor sense of social significance by patients was associated with negative responses of other. More recently, Wilczek et al. (2004) found that positive changes in relationship patterns were infrequently related to positive changes in symptoms and character pathology. These researchers understood this lack of expected association to reflect a difference of construct between CCRT and psychopathology. The lack of evidence showing a significant correlation between a measure of relationship patterns over the process of therapy and outcome of this therapy highlights an avenue for further investigation.

Despite the research validating and supporting the use of the CCRT, alternative methods to measure relationship patterns exist. However, Luborsky (1998d) considers them to have considerable overlap and suggests that the CCRT is distinguishable by its reliable,

formalized principles of inference making. Although the CCRT method is internationally renowned for its applicability to the extraction of conflictual relationship patterns, numerous studies have reported problems in the category structure, and thus have used alternate methods (Albani et al., 2002; Albani et al., 2003; Crits-Christoph et al., 1999).

Albani et al. (2002) reformulated the CCRT category structure. The final category system was termed the CCRT-LU in which 'L/U' represents the location of development (Leipzig/Ulm) and the 'Logically Unified' (LU) aspect of the category system. These researchers also introduced 'sub-dimensions of direction'. These sub-dimensions permit the "classification of object-directed and subject-directed wishes and responses" (Albani et al., 2002, p. 331). The classification of object and subject directed components (See Table 1) yield four main components [WO, WS, RO, and RS] that can then be divided into eight sub-dimensions [WOO, WOS, WSO, WSS, ROO, ROS, RSO, RSS] (Albani et al., 2002). The sub-dimensional approach to components yield themes of differing content (Albani et al., 2002) which may ensure further differentiation of wishes, responses of other, and of self. Studies have showed successful application using the CCRT-LU (Albani et al., 2002; Albani et al., 2003; Drapeau & Perry, 2004; Parker, 2004; Parker & Grenyer, 2007). Scored REs showed a higher level of agreement among judges relative to the level of agreement derived from using the CCRT. In addition, the directions of the sub-dimensions were assigned with a high degree of reliability (Albani et al., 2002).

Table 1: Dimensions of the CCRT-LU Category System

W				R			
WO “The other should...”		WS “I want to...”		RO “The other does ...”		RS “I do...”	
WOO	WOS	WSO	WSS	ROO	ROS	RSO	RSS
“The other should (...) to him/herself or other”	“The other should (...) to me”	“I want to do (...) to the other”	“I want to do (...) to me”	“The other does (...) to him/herself or other”	“The other does (...) to me”	“I do (...) to the other”	“I do (...) to me”

Note: W = wishes; R = responses; O = other; S = Self (Albani, et al, 2002, p.327).

The CCRT-LU and another related methodology, the Quantitative Assessment of Interpersonal Theme (QUAINT), for measuring relationship styles have been compared. Parker & Grenyer (2007) applied these two systems to the psychotherapy transcripts of 17 patients attending treatment. Both systems were reported to be moderately related. However, the CCRT-LU system demonstrated greater concordance with Luborsky (1986)’s ‘gold standard’ tailor-made method.

Other findings may also suggest that use of the CCRT-LU heightens sensitivity of measurement of relationship dynamics. It has been suggested that the CCRT is limited in its ability to differentiate between different forms of psychopathology (Wilczek et al., 2004). Wilczek et al. (2004) noticed this limitation when the most common CCRT found was often the most frequent CCRT in other studies. The central relationship pattern consisting of a wish to be close, the experience of other as rejecting, and a response of self involving disappointment and depression, is noted in more than one study (Wilczek et al., 2004; Luborsky, Barber, Schaffler, & Cacciola, 1998; Okey, McWhirter, & Delaney, 2000). Even when comparing different groups of patients (Chance, Bakeman, Kaslow, Farber, Burge-Callaway, 2000; Diguer et al., 2001; Wilczek et al., 2000) the use of the CCRT frequently found the same relationship patterns. Hence, the CCRT-LU appears to be a sensitive,

empirically sound measure of relationship patterns which demonstrates good concordance with the original measure of relationship: the CCRT. The CCRT-LU will therefore be adopted in the current project.

In summation, empirical support has been demonstrated for the CCRT as a measure of transference, a potential distinguishing factor between clinical populations, a conceptual tool in understanding features of varying clinical populations, and as a process contributing toward therapeutic changes within relationships and regarding outcome. Limitations of the use of the CCRT have been met with the emergence of a more sensitive measure: the CCRT-LU. Although treatment for drug dependence disorders appears successful, the processes relating to change are not well understood. The knowledge that interpersonal conflicts are central to cannabis users provides a nexus point for the CCRT models measuring these interpersonal effects, and the THC users seeking psychotherapy for drug dependence. This study therefore endeavours to investigate the processes and changes of the core conflictual relationship themes of individuals undergoing psychotherapy for drug dependence.

Changes in Relationship Patterns

Luborsky and colleagues advocate for a theory relevant measure of psychodynamic change. Several aspects of relationship patterns have been investigated to both track this change over psychotherapy and to understand and describe the nature of the relationships. The aspects worth thoughtful consideration and implementation include Pervasiveness, Valence and Harmony.

Pervasiveness as an index of change.

The basis for making stereotypical relationship patterns an important area of research was originally put forth by many psychoanalytically orientated and psychodynamic

therapists and theoreticians. Indeed, one criteria often found in descriptions of mental health is the ability to apply a large repertoire of positive and varied ways of interacting with another individual (Drapeau, Perry, & Koerner, 2009). It has been empirically demonstrated that pathological interpersonal patterns are more rigid and lead to fewer alternatives in interpersonal interactions (Cierpka et al., 1998). In fact, this repetition is considered a common feature of transference (Thomä & Kächele, 1987). Furthermore, these conflicting, repetitious interpersonal patterns are often associated with the emergence of psychological symptoms (Crits-Christoph & Luborsky, 1998). If psychological symptoms reduce it is the relationship conflicts that are viewed to be less pervasive.

Pervasiveness, then, is suited to the evaluation of outcomes in psychotherapy since the “decreased Pervasiveness of the conflictual relationship patterns appears to operate as a curative factor through fostering reduction of the symptoms, and the amount of change in itself is a theoretically relevant measure of the outcome of dynamic psychotherapy” (Crits-Christoph & Luborsky, 1998, p. 152). However, perspectives about the curative process in psychodynamic psychotherapy diverge. One view holds that the transference pattern and conflicts are resolved. For example, process research investigating transference reactions have shown that changes in transference, or the relationship pattern, are associated with treatment outcome (Gelso, Kivlighan, Wine, Jones, & Frieddman, 1997; Graff & Luborsky, 1977). The other view holds that the pattern remains fairly stable with the alteration of some components (Crits-Christoph & Luborsky, 1998).

In relation to the CCRT method, Pervasiveness means that over the course of successful therapy, there will be a decrease in the amount of relationship episodes in which the maladaptive theme is present (Crits-Christoph & Luborsky, 1998). Firstly, Crits-

Christoph et al. (1994) found that repetitiveness of themes does in fact occur for many patients unrelated to therapy type (Psychodynamic vs. Cognitive). Crits-Christoph and Luborsky (1998) then measured Pervasiveness based on the components of the CCRT. Here, Pervasiveness was measured through the wish, and positive and negative responses of other and of self, over the course of early and late therapy. Changes in Pervasiveness were found across therapy however, the wishes changed less than the response components. The largest changes were seen in a decrease in the negative responses of self and negative responses of other components. Pervasiveness was also reported to be very reliable.

Crits-Christoph and Luborsky (1998) understand their results to mean that rather than the wish becoming significantly less pervasive, a patient learns to acknowledge and manage their wish through successful therapy. More positive responses and less negative responses may occur despite aspects of the core relationship pattern remaining after therapy. The utilization of Pervasiveness as an index of change in relationship patterns appears apt and will be adopted in the current study.

Valence as an index of change.

Luborsky, Popp, Luborsky, and Mark (1994) investigated the idea that relationship patterns are either positive or negative. They commented that this notion dates back to the well-referenced writings of Freud (1912/1958). It was postulated that transference patterns are either positive or negative with no room for a neutral position: only satisfaction or irritation can occur. This dimension of scoring was later labelled as 'Valence' by Grenyer and Luborsky (1998). Hence, a positive pattern is understood to mean that the patient believes or expects no interference with the quest for wish actualization. It also means that a sense of mastery is present in coping with the wish. A negative pattern means that the

patient describes or expects interference with the satisfaction of the wish (Grenyer & Luborsky, 1998).

Scorers have demonstrated acceptable levels of agreement on this index and Valence of the relationship has been shown to change over the phases of therapy (Grenyer & Luborsky, 1998; Parker, 2004). Changes in the response of self however, were directly related to clinical changes in contrast to the response of other component. These researchers understand this result to mean that changes made in therapy are possibly attributed to those responses of self that encourage mastery of problems and self understanding, rather than full modification of the structure of the relationship pattern (Grenyer & Luborsky, 1998). Furthermore, Parker (2004) reported Valence of the RS component to shift significantly from a negative to a positive Valence for 17 personality disordered patients undergoing 1 – 6 years of psychoanalytic psychotherapy. This trend was also found with the RO component, regardless of the lack of significance from early to late sectors of psychotherapy. Valence will therefore be employed as a way to conceptualise the positive and negative dimensions of relationship patterns, and as a way to track change in this aspect of relationship patterns over time.

Harmony as an index of change.

A new dimension has been recently named and pertains to the distinction between positive and negative responses. Divergent from Valence, this method of measurement aims to highlight whether the *themes* within relationships become more positive over time. Wilzcek et al. (2004) understood relationship patterns to have a dichotomous nature and recognized the response of other and response of self to have either a positive or negative *theme*. These researchers defined Luborsky (1998)'s cluster standard categories as either

positive or negative. This way of understanding themes or categories differs from Luborsky and Crits-Christoph (1998) whereby the judges decide whether an RO or RS is positive or negative for a particular patient.

As part of the architecture of the CCRT-LU scoring system the 13 high level cluster categories are divided dichotomously in order to label them (Albani et al., 2002). Positive categories are referred to as 'Harmonious' and negative categories are referred to as 'Disharmonious', as reflected in the nature of the themes pertaining to each category (Albani et al., 2002). For example, if the category "J2", denoted in Albani et al. (2002)'s category system as "opposing, criticising", is endorsed for a CCRT component a Disharmonious label will be assigned due to the negative theme evident. Consistent with this initial proposal, categories A to G are labelled Harmonious and H to L are labelled Disharmonious.

A change in category or cluster within the CCRT-LU scoring system from negative to positive may be indicative of a change in the nature of a relational pattern, and this finding was reported by Parker (2004). A significant difference for the RS component was found between early and late sectors of long term psychotherapy for 17 personality disordered patients. However, this finding was not obtained with the W or RO components. The current study will adopt the descriptions of Harmony and Disharmony, and empirically investigate changes over the course of psychotherapy as an index of change in relationship patterns.

Wishes in relationship patterns.

Some researchers have commented on the nature of the wish in relationship patterns. Book (1998) understands the wish to have either a progressive or regressive nature. Progressive wishes are considered to be mature such as appropriate independence,

assertiveness, and adult behaviour (Book, 1998). Regressive wishes relate to desires to destroy, to mutilate, to be sadistic, to be dependant, or to retreat and to isolate (Book, 1998). Book (1998) suggests that an unarticulated progressive wish must be found if the goal is to help the patient actualize their wish.

In addition, other studies have reported on the characteristics of the wish and its amenability to change. The wish components have been reported to be more pervasive relative to the response components (Crits-Christoph & Luborsky, 1998; Cierpka et al., 1998). The wish component has also been found to be significantly more pervasive for clinical, relative to subclinical, groups showing its potential to distinguish between levels of psychopathology (Cierpka et al., 1998). Here, the pervasive wish component was significantly associated with severity of psychopathology (Cierpka et al., 1998).

Hence, there appears to be agreement among psychotherapists and researchers that the wish component is of great importance, but has a relatively refractory nature. In fact, studies have reported no actual change in the wish over the course of therapy (Crits-Christoph & Luborsky, 1998). For example, Crits-Christoph and Luborsky (1990) found no change in the rigidity of the wish component of the CCRT when comparing CCRTs in early and late therapy sessions, despite changes found with the other CCRT components. This finding may be in accordance with the experience of a number of psychotherapists who note the stability of the wish across therapy, and suggest that improvement occurs when a patient develops greater capacity to relate to themselves and others (Wilczek et al., 2000). In the classical tradition of Freud's (1917/1963; 1933/1964) drive/structural theory, becoming aware and developing insight into the wishes, needs, and conflicts underlying presenting symptoms is thought to assist in change. Other empirical studies examining and measuring

wishes in relationship patterns have also demonstrated that gains made in therapy are attributable to acknowledgement and management of the wish (Crits-Christoph & Luborsky, 1998).

Despite this early theoretical and empirical interest, the underdevelopment of formalized methods to measure and understand the wish seems surprising. There appears to be a lack of studies investigating the mechanisms contributing toward its highly pervasive nature. Since research regarding relationship patterns is closely aligned with the object relational tradition, a shift has occurred from drives and instinctual wishes as the principal motivational concept to the idea that motivations arise from vicissitudes of human interaction (Messer & Warren, 1995). This may have shifted the focus from the wish, and inhibited further theoretical and empirical exploration.

Applying the CCRT-LU allows greater sensitivity to clinical material (Albani et al., 2002; Albani et al., 2003) and may provide an avenue for further investigation into the W component of the CCRT. However, the CCRT-LU is noted to be unable to capture unconscious processes, and it is thought that these may form part of the clinical material under investigation (Albani et al., 2003).

Other researchers have agreed with the idea that the wish is more likely to be less conscious relative to other reaction components, rendering it difficult to examine and understand (Cierpka et al., 1998). Indeed, it is considered that wishes that rise from the unconscious into the preconscious of the individual are primarily associated with an object (Thomä & Kächele, 1987). Therefore, examining the wish within an interpersonal context, provided by the use of the CCRT method, appears apt. When Luborsky et al. (1994) aimed to test Freud's 'transference template' observations, through investigating its similarity with

the CCRT, they found that individuals may not be entirely conscious of their interpersonal pattern (Luborsky et al., 1985; Luborsky et al., 1986). Luborsky et al. (1994) developed four principles that are recommended to be implemented as guidelines for making inferences about less conscious components from the relatively conscious CCRT components. These researchers formulated clinical methods of thinking that can be used to hypothesize about the identity of less conscious contents.

This approach could be viewed as a sound mechanism in which to understand the role of the wish within relationship patterns, and track discrete processes of the wish within psychotherapy. Luborsky et al. (1994, p. 180) set out the four principles as follows. Principle 1: The opposite of the central CCRT components are likely to be an aspect of the conscious conflicts. Principle 2: A wish that is often expressed, but in a moderate degree, may have a similar but less conscious version that is more intense. For example, a patient may report feeling annoyed; the awareness of this ‘annoyed’ response may be only the awareness of a small, less intense aspect of an overall response of rage. Principle 3: Some instances of denial, for example “I am *not* depressed”, can reveal part of a less conscious conflict involving being depressed. Principle 4: This principle pertains to any conflictual topics where the patient has a history of difficulties with this conflict. For example, “I used to have difficulty in disagreeing with my father”. This statement may suggest that the patient may still have difficulty with this problem with their father and others. Luborsky et al. (1994) reports a case study undertaken by 3 judges that scored the CCRT independently. Although formal methods to test reliability of the scoring procedure were not used, there was good agreement noted among the judges regarding the inferences made about less conscious wish conflicts in the case.

Crits-Christoph & Luborsky (1998a) continued the investigation into less conscious wish components of the CCRT when they developed a measure for scoring CCRTs using self reports for completion by the patient. Since patients were asked to comment on their awareness of different kinds of wishes they experienced, these researchers were able to comment on the level of awareness of these wishes when comparing it to judge's ratings of wishes from the patient's narratives. Crits-Christoph & Luborsky (1998a) concluded that patients are likely to vary in their extent of awareness of their *main* wishes. This suggests that it is likely that the most central theme is out of awareness to the patient, but prominent enough to be scored by therapists, and likely to be of therapeutic importance.

The investigations into the nature of wishes has suggested that they are linked to increased levels of Pervasiveness, have a regressive or progressive nature, that they remain rigid despite a course of psychotherapy, and that they may be only partially conscious to the patient. Furthermore, therapeutic gains will arise only after acknowledgement and management of the wish component of the CCRT occurs. This suggests that addressing less conscious components through psychotherapy may increase the likelihood that acknowledgement and management of the wish occurs, and following this, possible symptom amelioration. However, few studies have investigated this component of the CCRT more closely. Such a lack of research may impede growth in an area that has potential to enhance clinical outcomes.

Utilization of the CCRT-LU and the sub-dimensional categories (Albani et al., 2002) may allow a focus on such variability in the relational dimensions of wishes. In addition, implementing Luborsky et al. (1994)'s four principles for measuring less conscious conflicts in the CCRT may aid in the investigation of the discrete dynamics of the wish. Both of these

tools will provide an opportunity to reveal aspects of the wish that may be of clinical importance in our understanding of the CCRT. This study therefore aims to investigate this idea.

Measuring Changes in Relationship Patterns – Methodological Perspectives

The following section will review methodologies pertaining to each index of change: Pervasiveness, Valence, and Harmony. It will link the theoretical and empirical evidence with methodologies found to reliably and validly represent their constructs.

Measuring pervasiveness.

Since Pervasiveness is evidenced by the frequency of conflicts occurring across relationship narratives, it is thought that greater Pervasiveness in relationships results in symptoms of psychological distress in the patient (Crits-Christoph & Luborsky, 1998). Therefore, a reduction in measures of Pervasiveness over the course of psychotherapy may be used to indicate change (Crits-Christoph & Luborsky, 1998).

Crits-Christoph and Luborsky (1998, p. 154) introduced a formula for identifying pervasive relationship patterns. This formula for identifying Pervasiveness is referred to in this project as Pervasiveness-Penn, to indicate its origin of development (University of Pennsylvania). The final CCRT, or the most Pervasiveness CCRT pattern, was understood to be the sequence of the most often identified W, RO, and RS components. Hence:

Pervasiveness-Penn =

$$\frac{\text{Number of Relationship Episodes (REs) that include the CCRT component}}{\text{Total REs in the session or sessions}}$$

Here, the relationship episodes were the unit of analysis. Other researchers have also reconsidered methods in which to measure Pervasiveness. More recently, Parker (2004)

adapted Luborsky and Crits-Christoph (1998)'s method of evaluating rigidity of relational themes. However, Parker (2004) considered a sector of therapy as a valid unit of analysis in which to calculate Pervasiveness, rather than an RE as utilised by Luborsky and Crits-Christoph (1998). It was reasoned that since relationship episodes within short-term psychotherapy are more discrete, measuring Pervasiveness across a therapy sector may be more sensitive. The equation used to measure Pervasiveness in Parker's (2004) study was:

$$\text{Pervasiveness-Wollongong} = \frac{\text{Number of categories endorsed within a sector of therapy}}{\text{Total Number of CCRT categories available (30)}}.$$

This method of calculating Pervasiveness is referred to as Pervasiveness-Wollongong, which reflects the origin of its development. When employing this method of evaluating Pervasiveness, Parker (2004) and Parker and Grenyer (2007) observed Pervasiveness-Wollongong trends reducing over sectors of psychotherapy (1 – 6 years) for 17 patients. Given that the current study is also utilising the psychotherapy sector as the unit of analysis, and clinical meaningful results were produced when implementing this formula, this method of measuring Pervasiveness will be adopted in Study 1.

Measuring harmony.

Change in relationship patterns can be understood when examining the Harmonious and Disharmonious categories, or themes, endorsed over the sectors of therapy. Hence, utilising Harmony as an index of change is clinically and empirically relevant. Changes in relationship patterns from early to late stages of therapy were calculated as a proportional change in Harmonious and Disharmonious categories over time. The proportional change in

the Harmonious and Disharmonious categories was calculated by converting the absolute frequencies of positive and negative categories into a measure called 'Harmony':

$$\text{Harmony} = \frac{\text{Frequency of Harmonious Categories endorsed within a sector of therapy}}{\text{Number of Harmonious categories} + \text{Number of Disharmonious categories}}$$

This Harmony statistic was calculated for each patient on the CCRT components [W, R, and RS] at each stage of therapy.

Measuring valence.

This index pertains to the application of a positive or negative Valence of the RO and RS relationship components. Valence ratings are applied to the RO and RS components during the tailor-made method. The Valence is measured using a four-category positive and negative scale where '1' is strongly negative, '2' is negative, '3' is positive, and '4' is strongly positive. Judges rate the degree of positivity and negativity for the response of other (RO) and the response of self (RS) within each relationship episode (RE) (Grenyer & Luborsky, 1998). The concepts of positivity and negativity refer to the extent to which the satisfaction of the Wish is achieved (positivity) or intruded upon (negativity) (Grenyer & Luborsky, 1998). For example, if in a patient's narrative, the wish is to be 'independent', the response of other is 'controlling', and the patient's response is to 'give-in', the Valence for both the RO and RS would be 1 - mostly negative, or 2 - negative depending on the judge's appraisal of the intensity. Alternatively, if in the narrative the RS was to 'protest' against a controlling response of other, then a more positive Valence (a 3 - positive or 4 - mostly positive) would be applied, since the RS works toward satisfying the wish. The Valence scores for the RO and RS component are averaged across each phase of therapy, per patient.

Summarised Research Model & Hypotheses

The following model incorporates the empirically tested and validated Core Conflictual Relationship Theme method and the association with drug use and psychological distress and functioning.

Greater improvement and clinical change is defined by;

- i. Improvement in psychological, social, and/or occupational functioning as measured by the Global Assessment of Functioning Scale (GAF).
 - ii. Fewer symptoms of depression as measured by the Beck Depression Inventory (BDI).
 - iii. Fewer symptoms of anxiety as measured by the Beck Anxiety Inventory (BAI)
 - iv. Lower drug use as measured via drug use data
 - v. Less endorsement of psychological symptoms as measured by the Symptom Checklist -90 - Revised (SCL-90-R)
2. Greater improvement and clinical change over the course of psychotherapy will be predicted by;
- i. More Harmonious CCRT categories as measured by the CCRT-LU.
 - ii. More positive CCRT Valence as measured by the CCRT-LU.
 - iii. Lower CCRT Pervasiveness as measured by the CCRT-LU.

Study Aims

Broadly speaking, this study aims to contribute to the general body of psychoanalytic research. The relative lack of research into relational aspects of drug dependence and their role in aiding clinical change highlights important avenues for investigation. This study

therefore aims to advance research by showing that interpersonal conflicts for cannabis users can be resolved through the application of a specific type of psychotherapy. This is aimed to elucidate possible mechanisms of change in psychotherapy for drug dependence and highlight the importance of psychotherapy for drug dependence overall. Fostering such research informs clinicians of practical recommendations about the treatment of choice, underlying mechanisms, and likely outcomes that are to be expected when undertaking cases such as these.

This study endeavours to address the following specific aims. Firstly, this study aims to provide an opportunity to add further validation with the use of the CCRT and CCRT-LU as a conceptual tool and clinical measure for individuals with cannabis dependence. Secondly, this study aims to investigate and understand the specific processes that occur within the psychotherapy framework for drug dependence, from a CCRT perspective. Thirdly, this study aims to understand the process-outcome links between the changes in the CCRT and the outcome of psychotherapy. Lastly, this study aims to explore the processes of the Wish component in order to help us better understand its nature.

Study 1: Changes in the core conflictual relationship themes in a single case study of a cannabis user.

This study, presented in chapter 2, aims to investigate changes within the CCRT for an individual with cannabis dependence, undergoing psychotherapy for drug dependence. This study endeavours to determine whether positive trends are observable in relationship patterns, as measured by each index of change, for a given individual with cannabis dependence. The extent to which CCRT patterns are modifiable, within this specific

population, aims to inform Study 2. The specific questions to be addressed in chapter 2 include:

1. To what extent is the relationship pattern of a cannabis user undergoing psychotherapy for drug dependence modifiable?
2. What are the characteristics of the relationship patterns of an individual with Cannabis Dependence undergoing psychotherapy for drug dependence?

Study 2: Changes in the core conflictual relationship themes of 24 cannabis users – Process-outcome links.

Study 2, as presented in chapter 3, aims to expand Study 1 by advancing the number of subjects to examine interpersonal patterns and their relationship with outcome factors. This study therefore aims to investigate whether the CCRT patterns of 24 cannabis users are modifiable, and related to measures of clinical change and improvement. Furthermore, Study 2 aims to determine whether examining the nature of the CCRT W component over psychotherapy helps in our understanding of its refractory qualities. Hence, specific research questions to be addressed in chapter 3 include:

1. To what extent are the CCRT patterns of 24 cannabis users undergoing psychotherapy for drug dependence modifiable?
2. How do these results correlate with measures of improvement and clinical change?
3. Can Luborsky et al. (1994)'s four principles be used as guidelines for making inferences about less conscious wishes, from the relatively conscious CCRT wish components expressed in narratives?
4. How might this contribute to our understanding of the W and the CCRT?

Chapter 2

Study 1 – Changes in the Core Conflictual Relationship Themes of a Cannabis User: A Single Case Design

Study 1

Study 1 begins the exploration of the process-outcome links in the psychotherapy of drug dependence. A single case study was adopted for preliminary investigation by exploring and measuring the Core Conflictual Relationship Themes of an individual that underwent short-term psychotherapy for Cannabis Dependence. This single case design aimed to observe the Core Conflictual Relationship Theme and its change (via trends in Pervasiveness, Valence, and Harmony) over the course of psychotherapy. It is hypothesized that Pervasiveness, Valence, and Harmony will improve for each CCRT component (W, RO, and RS), over the course of psychotherapy.

Method

Procedure.

Participant.

One case, Michael, was chosen from a data set of patients with Cannabis Dependence that underwent 16 sessions of manual-driven SE Dynamic psychotherapy for drug dependence. This case was chosen since it was considered to be representative of a good outcome patient, and had complete recordings of all sessions. At the time of data collection, Michael reported that he was a 42 year-old married man with two sons aged five and eight, and resided in the northern suburbs of Sydney. Born in Australia, he is the eldest of 4 Children with 3 sisters. He describes having an obvious eye tick since he was young, which resulted in feelings of isolation over his lifetime. His mother died in 2003; his father

was in poor health. He was employed as a chef and enjoyed painting. Michael described a 28 year history of marijuana use, involvement in marijuana cultivation, and marijuana distribution. He denied previous attempts at abstinence or attendance for treatment, and described his therapeutic goals as: (1) “Give up drugs”, (2) “Do something more constructive with (his) time”, and (3) “Improve (his) relationship with (his) wife”.

Participants from this data set, (n = 100; 79 males, 21 females; mean age 32.7; SD 7.7; range 20-56), were recruited through local media by researchers via the Illawarra Institute for Mental Health and the Department of Psychology, University of Wollongong (Grenyer & Solowij, 2006). Participants had a primary diagnosis of Cannabis Dependence and were required to have a 5 year history of cannabis use, with daily or near daily use for the past 30 days. Participants were excluded if another diagnosis of drug abuse or dependence was present. Verbatim transcripts were derived from each therapy session for each patient. The 16 transcribed psychotherapy sessions were scored using the CCRT tailor-made method and then the CCRT-LU scoring system was employed.

Psychotherapy.

The participants received 16 sessions of manual-driven SE dynamic psychotherapy (Grenyer, Luborsky, & Solowij, 1995). This type of therapy is a specific form of psychoanalytic psychotherapy which utilizes both supportive and expressive techniques (Luborsky, Mark, et al. 1995). Supportive techniques are employed earlier on in psychotherapy and focus on strengthening the patient’s defences and helping the patient develop coping skills to solve their problems (Book, 1998). Expressive techniques are gradually introduced, and the goal of these techniques is to encourage previously repressed material to be expressed by the patient in a supported and safe environment. This is hoped to

ensure that this material is both understood and resolved (Book, 1998). This type of treatment approach was manualised, put forth, and published by Luborsky (1984), with the CCRT as the defining feature.

A number of specialized editions of the original SE manual have been adapted to address drug dependence disorders (Barber & Crits-Christoph, 1995) including opiate dependence (Luborsky, Woody, & Hole, 1995), cocaine dependence (Mark & Faude, 1995), and cannabis dependence (Grenyer, Luborsky, & Solowij, 1995; Grenyer & Solowij, 2006; Grenyer, Solowij, & Peters, 1996). To date, the literature demonstrates that SE Dynamic psychotherapy is effective for treating some drug dependence disorders, and is at least comparable to efficacy found with Cognitive-Behavioural Therapy (Crits-Christoph & Connelly, 1998; Luborsky, Crits-Christoph, Mintz, & Auerbach, 1988; Woody et al., 1983; Woody, McLellan, Luborsky, & O'Brien, 1987; Woody, McLellan, Luborsky, O'Brien, 1995; Crits-Christoph et al., 1999). Patients were encouraged to cease cannabis use by the fourth session of psychotherapy. However, for those patients that did not comply with these instructions, psychotherapy continued in accordance with the manual for SE psychotherapy (Luborsky, Mark, et al. 1995).

The 16 sessions of SE psychotherapy were divided into 6 sectors. Parker (2004) and Parker and Grenyer (2007) used sectors of psychotherapy as the unit of analysis. Furthermore, Luborsky and Crits-Christoph (1998) recommended that 10 REs are needed to be obtained from transcribed psychotherapy sessions in order to reliably derive the CCRT. Given that clinically meaningful results have been obtained using these methods, Study 1 will also adopt this approach. Hence, placing the psychotherapy sessions into sectors of treatment was hoped to maximise the number of relationship episodes in which to

meaningfully analyse the scored data. Table 2 shows the psychotherapy sessions included in each sector, and the total number of sessions per sector. In accordance with Luborsky and Crits-Christoph (1998)'s recommendation regarding the number of REs needed to reliably derive the CCRT, each of the 6 sectors meets, or approaches, this requirement.

Table 2: Distribution of transcribed therapy sessions and REs derived from the transcripts, per sector of psychotherapy.

Sector of Therapy	Psychotherapy sessions per sector	Total number of sessions per sector	Total number of REs per sector*	% of REs represented by each sector
1	1 – 4	4	12	15.8%
2	5 – 6	2	8	10.5%
3	7 – 8	2	15	19.7%
4	9 – 10	2	14	18.4%
5	11 – 12	2	15	19.7%
6	13 – 16	4	12	15.8%
Total	-	16	76	100

* mean = 12.67

Implementation of measures – CCRT method.

Relationship episode (RE.)

The transcripts of psychotherapy sessions were scored with reference to Luborsky (1998b)'s method for the use of narratives. These researchers define an RE as a segment of a psychotherapy session in which there is a clear narrative about an interpersonal interaction with another person or the self. These narratives are located and marked off by the scorer as the initial step prior to the identification and scoring of each CCRT/CCRT-LU component. Luborsky (1998b) also described parameters needed for the identification of an RE. Each RE

must have an easily identifiable other person, or 'object', with whom they are interacting. They describe the general nature of an RE as having a beginning, middle, and an end. There are often signs in which the interviewer or therapist may use in which to identify the commencement of an RE. These include a pause, transition into a new topic, or a direct introductory statement of a change of topic by the patient. The level of agreement between scorers identifying an RE was noted to be reasonable at .74 (Bond, Hansell, & Shevrin, 1987). The total number and mean of REs per sector, and the percentage of REs representing each sector, are shown in Table 2.

Core Conflictual Relationship Theme Method – Tailor-Made method.

Scoring of the CCRT is typically achieved from the transcripts of psychotherapy sessions in which the REs have been first identified. The scorer then identifies the types of CCRT components in each RE. Here, the inferences made by the scorer rely on three aspects of narratives about interpersonal interactions: W, RO, and RS (Luborsky, 1998a). The scoring of the three aspects of the narrative is completed in the scorer's own language, which forms the tailor-made method. The CCRT method is reported to attain an acceptable level of reliability across 8 samples (Luborsky & Diguier, 1998), with weighted kappas computed by the Diguier procedure between .53 and .83 (Luborsky & Diguier, 1995). Method validity has also been demonstrated (Luborsky & Crits-Christoph, 1990). Following this, the CCRT-LU scoring system is then immediately applied.

The CCRT-LU.

Albani et al. (2002), created a system which contains 13 cluster categories at the highest level, 30 categories at the middle level, and 119 sub-categories at the lowest level. The four main component dimensions are: WO (Wish of Object); WS (Wish of Self); RO

(Response of Object); and RS (Response of Self). This can be further classified under 8 sub-dimensions depending on the direction of the wish and response: WOO (The other should...to themselves or other); WOS (The other should...to me); WSO (I want to do.... to the other); WSS(I want to do...to me); ROO (The other does...to themselves or others); ROS (The other does...to me); RSO (I do...to the other); and RSS (I do...to me). Thus, a scorer would obtain a response from the category system to match each identified sub-dimension (Albani et al., 2002).

The CCRT-LU allows scoring to focus on a range of perspectives, and it appears to exhaust the data set of CCRT components to a greater extent. However, the increase in accuracy of CCRT-LU patterns may be at the expense of generalisability. Thus, for research purposes in the current single case study, and in order to have sufficient statistical power to avoid violation of statistical assumptions, the data requires re-constitution into the familiar 3 CCRT components: W, RO, and RS. Aside from these benefits, this re-constitution also captures the essential intention of the CCRT, which is to look at the three major sequences of the W, RO, and RS in context to relationship conflicts. Hence, the three components (W, RO, and RS) were retained for analysis.

Outcome measures.

Depression and anxiety levels are considered as symptoms sensitive to the course of cannabis withdrawal (Kouri & Pope, 2000). An observation of trends in anxiety and depression scores over the course of psychotherapy for THC cessation in a single case study illustrated a decrease in these scores over time, as measured by the Beck Depression Inventory and the Beck Anxiety Inventory (Solowij, Grenyer, Chesher, & Lewis, 1995). Similarly, scores as measured by the Symptom Checklist-90-R and the Global Assessment

of Functioning indicated lower distress levels and good overall functioning (Solowij et al., 1995). These measures were completed by the 24 cannabis users at the initial and final session of psychotherapy. The results of these measures will be used in the Study 1.

The Beck Depression Inventory.

The Beck Depression Inventory (BDI) is a self administered 21 item self report scale measuring characteristic attitudes and symptoms of depression (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961). A fifth to sixth grade reading level is required. Internal consistency for the BDI ranges from .73 to .92 (Beck, Steer, & Garbin, 1988), and there is high content validity and validity in differentiating between depressed and non-depressed people (Richter, Werner, Heerlim, Kraus, & Sauer, 1998). If the BDI is re-administered at 2 to 6 weeks post initial administration, scores are said to reflect changes in the clinical depth of depression (Beck et al., 1961). Hence, data obtained from this inventory was used to measure changes in depression levels across psychotherapy.

Beck Anxiety Inventory (BAI).

The BAI (Beck, Epstein, Brown, & Steer, 1988) is a self report scale consisting of 21 descriptive statements about anxiety symptoms. It uses a 4 point scale, (ranging between 0 – “not at all”, to 3 – “severely”), and measures the severity of the self-reported anxiety. Reliability has been demonstrated following reports of high internal consistency, such as .92 (Beck et al., 1988) and .94 (Fydrich, Dowdall, & Chambless, 1990); test-retest reliability has also been established (Beck, Rush, Shaw, & Emery, 1979). Concurrent validity (Beck et al., 1988); construct validity (Beck et al., 1988; Fydrich et al., 1990); discriminant validity (Beck et al., 1988); and factorial validity (Beck et al., 1988) has been established. Data

derived following the implementation of this measure of anxiety was also used in the current project.

Symptom Checklist -90-Revised (SCL-90-R.)

The SCL-90-R is a 90-item self report symptoms inventory designed to reflect psychological symptom patterns for an individual (Derogatis, 1994). The results from this self report are understood by examining nine primary symptom dimensions (somatisation, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism) and three global indices of distress (global severity index, positive symptom distress index, and positive symptom total). Both internal consistency reliability and test-retest reliability was reported to be quite satisfactory (Derogatis, Rickels, & Rock, 1976; Horowitz, Rosenberg, Baer, Ureno, & Villasenor, 1988). The internal structure of the SCL-90-R and its factorial invariance (Derogatis & Cleary, 1977), as well as convergent–discriminant validity (Derogatis et al., 1976) has been established. The SCL-90-R was supplied at the initial intake and final termination of psychotherapy in order to compare and contrast the two psychological profiles. Hence, the difference in number and degree to which dimensions and indices were endorsed was of specific interest to this study to indicate clinical change.

Global Assessment of Functioning (GAF).

Scores on this measure indicate levels of psychological, social, and occupational functioning for an individual. It is based on the Health Sickness Rating Scale (Luborsky et al., 1993) where functioning levels of the individual are rated by the clinician. Its usefulness as a measure of clinical progress (APA, 2000), sensitivity to change (Luborsky et al., 1993), and inter-rater reliability (Bacon, Collins, & Plake, 2002) have been demonstrated. The

results from the implementation of the GAF were used in the current study to measure levels of functioning over psychotherapy.

Drug Use Data.

Data was collected pertaining to the quantity of cannabis used within the treatment phase. The number of days per month where the patient used cannabis was recorded. Recordings took place at the initial session and at the final session of psychotherapy (four months post commencement). In addition, the number of patients that were abstinent at this final recording time was also calculated.

Analyses

For the CCRT-LU components, calculations for Pervasiveness-Wollongong and Harmony were transformed into percentages in order to allow meaningful comparison. The Valence scores themselves were used when illustrating change in the Valence index. A graphical illustration of these change scores was used to aid observation of trends in each index over the course of psychotherapy. Data entry and statistical analyses were performed on Microsoft Excel 2003. Kruskal-Wallis non-parametric tests were adopted to test significance of change for each index, and the Mann-Whitney-U tests were used for post-hoc comparisons. The alpha level was adjusted to $p = .01$. The use of these non-parametric tests for a single case design has been used in recent research using linguistic measures (for example, Lepper & Mergenthaler, 2007; Lepper & Mergenthaler, 2008). The statistical program, SPSS, version 11.5 for Windows (Chicago, IL., USA) was used for data analysis.

Results

Research Aim 1: To examine the extent to which the relationship pattern for a single case, Michael, is modifiable over 16 sessions of SE psychotherapy for Cannabis Dependence.

Research Model and hypotheses

It is postulated that Pervasiveness-Wollongong, Harmony and Valence scores for the CCRT will change over the course of psychotherapy for Michael. It is considered that this trend will reflect an improvement in each index:

- (i) Lower CCRT Pervasiveness-Wollongong as measured by the CCRT-LU.
- (ii) More Harmonious CCRT categories as measured by the CCRT-LU.
- (iii) More positive CCRT Valence as measured by the CCRT-LU.

An observation of trends for each index, over the 6 sectors of psychotherapy for Michael's W, RO, and RS CCRT components, are described below.

Inter-rater reliability.

Seventy-four relationship episodes were scored independently by two judges (DC and LA). The inter-rater reliability was calculated using 18 randomly selected relationship episodes taken from the total relationship episodes scored for the 6 sectors of therapy. Using weighted kappa (κ_w : Cohen, 1968), the inter-rater reliability was calculated to be .74. This is commensurate with levels of inter-rater reliability previously reported (Luborsky & Diguier, 1998; Parker & Grenyer, 2007). Fair agreement was yielded for the reliability on each component: Wish $\kappa_w = 0.52$, RO $\kappa_w = 0.74$, and RS $\kappa_w = 0.72$. This is consistent with reporting from Luborsky and Diguier (1998) who found that the W component produced lower agreement between judges than the RO and RS components.

Pervasiveness.

According to Luborsky (1998), the "decreased Pervasiveness of the conflictual relationship patterns appears to operate as a curative factor through fostering reduction of the symptoms..." (Crits-Christoph & Luborsky, 1998, p. 152). This improvement in rigidity

of relational patterns is reflected in a change in the W Pervasiveness. That is, an increase in the percentage scores across the 6 sectors of therapy shows greater endorsement of categories, and hence greater variability of relational themes. As depicted in Figure 1, the results from the case of Michael show an overall increase in W Pervasiveness-Wollongong, meaning a decrease in the rigidity of his wish, needs, or intentions. Michael's Pervasiveness-Wollongong scores over each sector of psychotherapy are significantly different [Chi square (5, n = 6) = 75, p = .00]. The percentage score at initial session is recorded as 42%, which increases to 58% at final session. Post hoc comparisons reveal that significant differences occur between sectors 1 and 6 ($\underline{z} = -4.79$, p = .00); sectors 1 and 3 ($\underline{z} = -5.09$, p = .00); and sectors 3 and 6 ($\underline{z} = -5.09$, p = .00).

This significant change over time appears to be the case with the RS [Chi square (5, n = 6) = 75, p = .00]. As illustrated in Figure 1, Michael's Pervasiveness-Wollongong for the RS at initial session is 66%, and it increases to 84% at the 6th sector of psychotherapy. Since a greater variation in interpersonal relationship patterns was observed for both the W and RS component, a decrease in psychological symptoms is likely. Post hoc comparisons reveal that significant differences exist for the RS between sector 1 and 3 ($\underline{z} = -5.09$, p = .00); 3 and 5 ($\underline{z} = -5.39$, p = .00); and 2 and 6 ($\underline{z} = -4.36$, p = .00).

Of interest is a sharp decline in variability of relational themes in sector 3 of therapy. It appears that from sector 2 to 3, Pervasiveness-Wollongong drops to 47% from 62% for the W, revealing significant differences between these two sectors following post hoc comparisons ($\underline{z} = -4.69$, p = .00). In addition, a decline is noted from 62% to 47% for the RS, showing significant differences between sectors 2 and 3 following post hoc comparisons ($\underline{z} = -4.69$, p = .00).

One way to understand this decline may be to consider the inclusion of psychotherapy sessions 7 and 8 within sector 3. Sessions 7 and 8 have been commonly considered to be rich with relational content, and where a greater number of REs is likely to be present. In fact, the percentage of Michael's REs represented by each sector is highest at 19.7% in sector 3. The therapeutic alliance is likely to be established here, and the supportive framework of the therapy fosters expression of previously repressed material in the patient (Book, 1998). In addition, Michael was instructed to cease cannabis use by session 4 (Sector 1). One may hypothesize that Michael's inability to access and adopt his regular psychological coping mechanism may have also negatively impacted his psychological distress levels and exacerbated interpersonal conflicts.

The trend of Pervasiveness-Wollongong across sectors of psychotherapy for the W and RS was not observed with the RO component. Although significant differences were found among sectors [Chi-square (5, n = 6) = 75, p = .00], the scores at sector 1 and 6 are similar. Figure 1 demonstrates a RO trend of a fluctuating nature. The turning points, as represented by the mean Pervasiveness-Wollongong scores, begin at 58% at sector 1, increase to 66% at sector 3, then decrease to 50% in sector 4, and end at 58% at sector 6. Despite these small fluctuations, it appears that Michael's RO remained relatively rigid by completion of the course of psychotherapy. Michael therefore appears to view the response of other, in his interpersonal interactions, in a relatively consistent manner. The high degree of Pervasiveness-Wollongong and its relatively refractory nature may indicate unresolved psychological distress. Although Figure 1 illustrates more rigid wishes and responses of self in Sector 3, poorer interpersonal functioning is not expressed in Michael's response of other in Sector 3, as depicted in Figure 1.

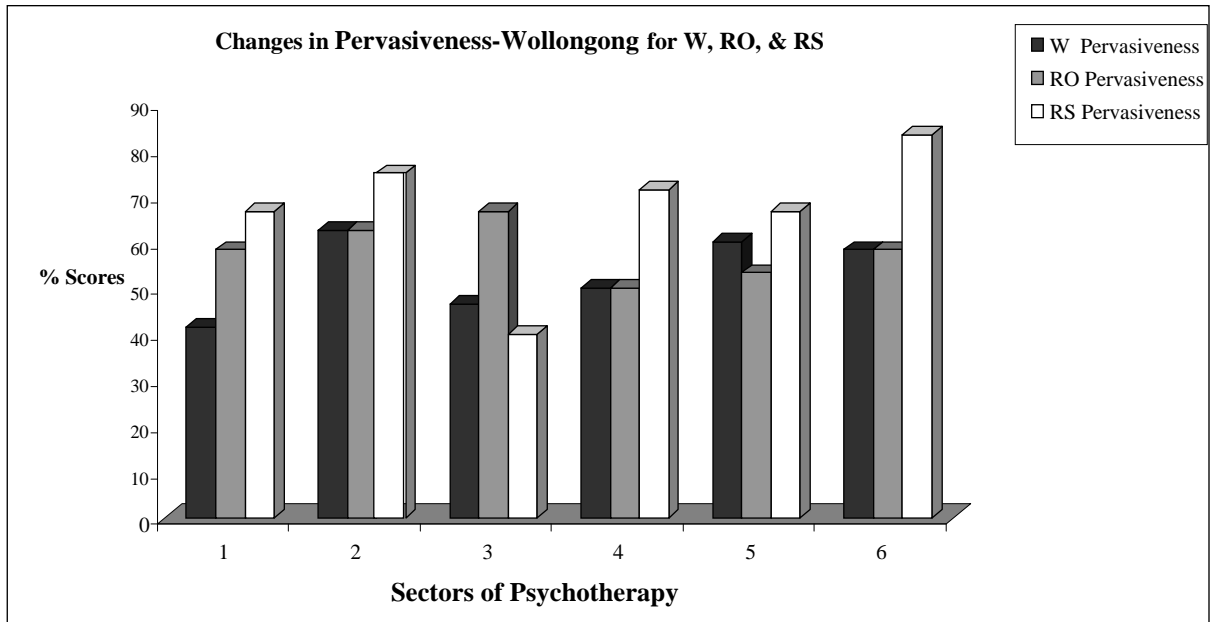


Figure 1: Changes in W, RO, & RS Pervasiveness-Wollongong, represented as a percentage, for Michael over the sectors of psychotherapy.

Harmony.

Harmony is understood as a change in category or cluster within the CCRT-LU scoring system from a negative to positive theme, and this shift may be indicative of a change in the nature of a relational pattern (Parker, 2004). Figure 2 illustrates significant differences in Harmony for the W for each sector of psychotherapy for Michael

[Chi-square (5, n = 6) = 75, p = .00]. The W appears to become slightly more Harmonious over therapy, with an initial Harmony score of 33% that increased to 40% by the final session. Post hoc comparisons reveal differences among sectors 1 and 6 ($z = -4.80, p = .00$); 1 and 3 ($z = -5.10, p = .00$); and 3 and 6 ($z = -5.10, p = .00$).

A very modest improvement is illustrated in Figure 2 for the RS component, with an initial Harmony score of 13% that increased to 17% at sector 6. However, the most notable significant differences occurred between sectors 1 and 5 ($z = -5.09, p = .00$), but also with 2 and 3 ($z = -4.69, p = .00$) and 3 and 6 ($z = -5.09, p = .00$). Although significant differences

were found between sectors for the RO [Chi-square (5, n = 6) = 75, p = .00], a small improvement overall occurs, as shown by the increase from 10% – 13% between the initial and final session of psychotherapy. Therefore, Michael’s *themes* within relationships appear to have become more positive or Harmonious over time, particularly with the W, and more moderately with the RO and RS components.

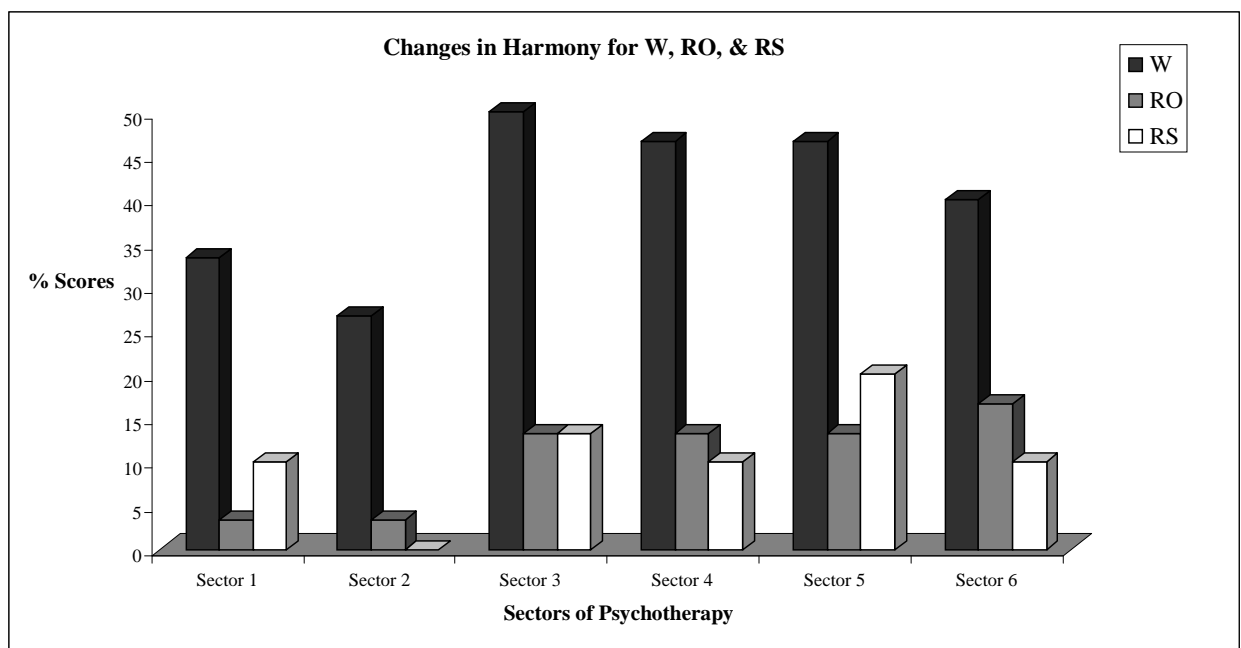


Figure 2: Changes in Harmony for the W, RO, & RS, represented as a percentage, over the 6 sectors of psychotherapy, for Michael.

Valence.

According to Luborsky and Grenyer (1998), Valence refers to whether a relationship pattern is positive or negative. A positive pattern means that the patient believes or expects no interference with the quest for wish actualization, a sense of mastery is present in coping with the wish, and a scorer would assign a rating of 3 or 4. A negative pattern means that the patient describes or expects interference with the satisfaction of the wish, and a scorer would assign a rating of either 1 or 2 (Grenyer & Luborsky, 1998). As represented in Figure 3,

Valence for the RO significantly increased over the 6 sectors of therapy. There are significant differences in Valence between sectors [Chi-square (5, n = 6) = 75, p = .00]. Initially, the Valence for the RO is rated as 1 and at the last sector of therapy, it is rated as 2.5. This shows a clear improvement in relational themes because they were rated negative initially and by the end, toward the positive range. The main distinctions between sectors of psychotherapy for the RO occur between sectors 1 and 6 ($z = -4.80, p = .00$), and 3 and 6 ($z = -5.09, p = .00$).

However, as noted in Figure 3, no obvious trend is observed in Valence for Michael in regards to the RS. They appear to be relatively positive across psychotherapy. Initially, Michael experiences others as hindering his quest for wish actualization; at the completion of psychotherapy, less interference occurs and a sense of mastery may be present. In contrast, Michael's response of self appears not to interfere with wish actualisation or gains of mastery, and this remains constant over psychotherapy.

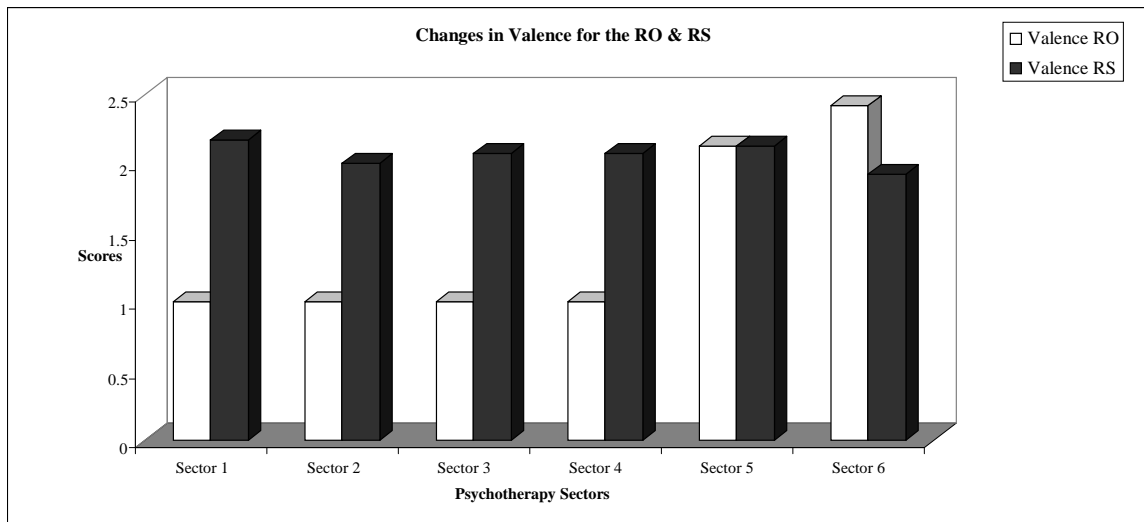


Figure 3: Changes in Valence for the RO and RS, over the 6 sectors of psychotherapy, for Michael.

Outcome measures.

Psychological symptom endorsement (SCL-90-R.)

Michael’s scores on the SCL-90-R showed a consistent decrease across all symptom levels from the initial psychotherapy session to the final session 4 months later. Table 3 shows the changes in summary scores for the SCL-90-R from the initial to the final session of psychotherapy. There is an obvious reduction in percentiles and a reduction in the reported level of symptom distress as shown in the symptom subscales.

Table 3: Comparison of Summary Scores for the SCL-90 at Initial and Final Session of Psychotherapy for Michael.

Summary Score	Initial Session		Final Session	
	Score	%	Score	%
Total Score	158	-	20	-
Positive Symptom Score	75	99 th	18	60 th
Positive Symptom Distress Index	2.11	94 th	1.11	35 th
Global Symptom Index	1.76	99 th	0.22	53 rd

% = Percentile

Psychological, social, and/or occupational functioning (GAF).

Michael’s GAF score increased from 65 (mild symptoms and some functional difficulty) to 76 (transient symptoms and slight functional impairment) from initial to final session of psychotherapy. This shift in scores is likely to reflect an improvement in psychological, social, and/or occupational functioning.

Depression and anxiety scores (BDI and BAI).

Michael’s score on the BDI also showed a clinically significant reduction, with a reasonably steady decline, from 18 (mild to moderate depression) to 1 (none or minimal depression) over 16 weeks of SE Psychotherapy. Michael’s initial score of 5 on the BAI

reflected a normal level of anxiety, which later reduced to 0 at final session. Hence, it appears that Michael's anxiety levels remained in the normal range for the duration of psychotherapy. Michael's depressive symptoms had been resolved and he continued to experience no anxiety following psychotherapy.

Drug Use Data.

Michael reported a 28 year history of cannabis use. At intake, Michael reported using 15 cones of cannabis on 30 out of 30 days per month. At termination of psychotherapy, Michael denied any cannabis use. Abstinence from cannabis use was maintained at the 12 month follow-up interview.

Description of Michael's relational patterns – CCRT-LU categories.

Research Aim 2: What are the characteristics of the relationship patterns of a cannabis user undergoing psychotherapy for drug dependence?

The observed trends and significant changes in each index of change become clinically and conceptually meaningful when illustrated by the Michael's relationship patterns over time. Figure 5 reviews the most common CCRT for Michael at each sector of psychotherapy. Initially, Michael wishes to independently explore however, he experiences other as rejecting, and responds to this by retreating. Michael's RS here was to typically use substances to manage his interpersonal conflict: "So I, I bombed out with ah, um a sleeping tablet" and "marijuana made me communicate more reclusive". The most common object included in his descriptions of other in this sector of therapy is his wife. Overall, the two most common objects found in the REs were his parents (appearing in 19 of 76 REs) and his wife (appearing in 15 of 76 REs), from a total of 12 identified objects (Parents/family, wife,

friends, self, therapist, ex-girlfriend, work colleague, boss, dog, Children, THC, and customer).

Michael's CCRT in the second sector of therapy highlights his wish for confidence with a conflictual subjugating other, resulting in feelings of guilt and shame. The objects in this sector of therapy appear more variable including the self, parents, employer, a past teacher, ex-girlfriend, and his dog. Sector 3 shows the emergence of a disparate wish. Here, Michael wishes to be close to other however, he experiences other as rejecting, and responds in his previously typical mode which is to retreat. The common retreating nature of the RS may be considered to be consistent with the highly Pervasiveness-Wollongong RS component reported in Sector 3 of Figure 1. Interestingly, Michael's most common object in this sector of therapy is his family/parents. This may indicate a highly conflictual relational pattern with this group of people and may indicate the need for resolution.

Michael continues to wish to be close to others in sectors 4 and 5, and consistently experiences a Disharmonious response of other as rejecting and subjugating. However, in these sectors of therapy there is an obvious change in responses of self to a Harmonious dimension. Michael begins to respond differently by exploring, admiring, accepting, and understanding. This clinically meaningful shift is consistent with the improvement in Harmony scores from Sector 4 to Sector 5 in Figure 2. Again, the most commonly described objects in these sectors are his wife and his family/parents.

In the final sector of therapy Michael's wish has remained consistent. That is, he continues to wish to be close to others. Despite the Harmonious category endorsement, his consistency in wishes may reflect the relatively moderate increased in Pervasiveness-Wollongong at the final sector. He begins to experience other as helping, which is a shift

toward a Harmonious category and a positive Valence. Although Michael responds to other with dislike, he equally responds to other as being close. It is worth noting here that his wish has been fulfilled. The most commonly discussed object in this sector of therapy is his wife. Thus, resolving his interpersonal conflict with his wife in particular appears to have resulted in wish actualization. His improved and variable RS may have helped Michael gain mastery in his attempt at wish actualization.

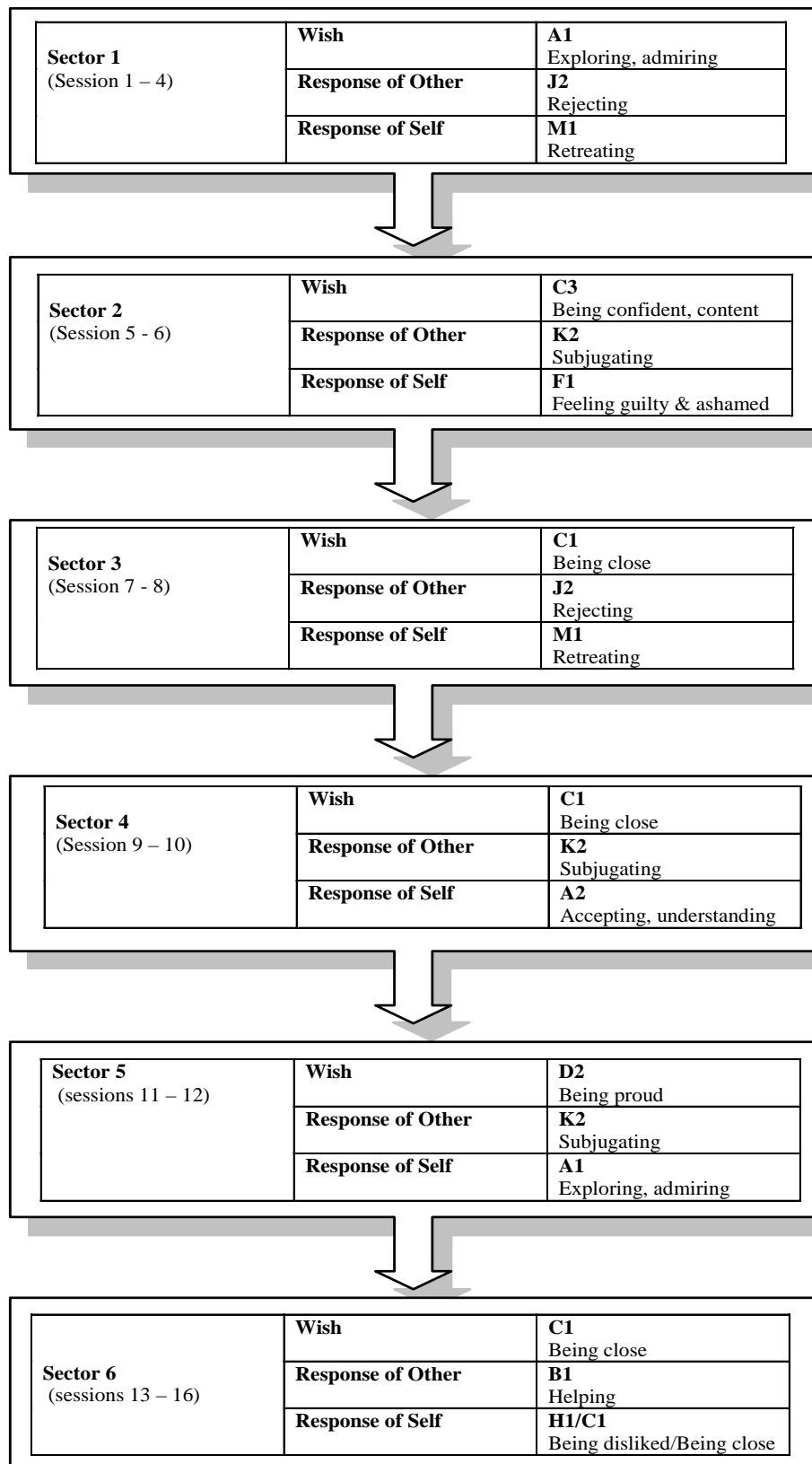


Figure 4: CCRT-LU formulations across each Sector of Psychotherapy for Michael

Conclusion

This study endeavoured to investigate CCRT changes of an individual with Cannabis Dependence that underwent 16 sessions of SE psychotherapy for drug dependence. The vehicles of change under investigation were the Pervasiveness-Wollongong Valence, and Harmony indices, and outcome measures. With these in mind, this study therefore aimed to examine the characteristics of these relationship patterns and the extent to which they are modifiable.

The results suggest that the relationship patterns of a single case, Michael, are modifiable over the course of 16 sessions of SE psychotherapy. An observation of trends illustrated that Michael's wishes and response of self (as measured by the W and RS CCRT components) became less rigid, more Harmonious, and more positive over time (as measured by the Pervasiveness-Wollongong, Harmony and Valence indices). This is consistent with other reports of improvements in the RS, and there is an understanding that this component may significantly contribute toward motivation for change (Luborsky & Grenyer 1998). The moderate improvement in the Pervasiveness-Wollongong of the wish is disparate with previous reports (Crits-Christoph & Luborsky, 1998; Cierpka et al., 1998). Further investigation into this curious result is therefore warranted. This improvement is consistent with changes in outcomes measures. Michael's psychological symptom profile; psychological, social and occupational functioning; depression and anxiety levels; and cannabis use all improved over the course of psychotherapy.

The observed trend of the response of other appears to be disparate to the other relationship dimensions. Michael's response of other (as measured by the RO component) remained consistent (as measured by the Pervasiveness-Wollongong index) over

psychotherapy. The RO became moderately more Harmonious (as measured by the Harmony index) over psychotherapy. The observed trends and the qualitative analyses show that the most frequent category endorsed was ‘subjugating’, and this experience of other is therefore consistently negative. The Valence however, shows improvement relative to the response of self. Hence, although Michael’s response of other is rigid and relatively Disharmonious, it does not interfere with his quest for wish actualization or attempts at gaining mastery.

Aspects of the core conflictual relationship patterns of a cannabis user appear to be modifiable. These changes in specific characteristics of relationship patterns, such as the wish and response of self, measured via indices of change are clinically meaningful and consistent with improvement in measures of psychological distress and functioning. This may suggest that these indices and outcome measures are appropriate to implement when measuring change in relationship patterns. Furthermore, populations of drug users may show promise in their ability to benefit from adopting a relationship perspective in treatment. Hence, the results from Study 1 warrant closer interest and empirical investigation into the Core Conflictual Relationship Themes of patients undergoing psychotherapy for Cannabis Dependence.

Chapter 3

Study 2 – Changes in the Core Conflictual Relationship Themes of 24 Cannabis Users

– Process-Outcome Links.

Study 2

Study 2 aimed to measure changes in CCRT patterns of a group of 24 cannabis users undergoing short-term psychotherapy for drug dependence, and its relationship with clinical outcome. In addition, discrete aspects of the W and its relationship with clinical change will be investigated.

Method

Procedure.

Twenty-four participants for Study 2 were drawn from the data set reported in Study 1. The 24 cases represented a dichotomous range of outcome: twelve with good outcome; twelve with poor outcome. Good outcome meant complete abstinence of Cannabis at 12 months follow-up, and poor outcome related to continued use of Cannabis at 12 months follow up. In addition, the 24 cases were included because complete audiotapes sessions were available for transcription and CCRT analysis. Apart from these two criterion, the selection of cases was random. As in Study 1, the unit of analysis in Study 2 is the sector of psychotherapy. Therapy was divided into 3 sectors (early, middle, and late). The early sector of therapy included sessions 1 – 4, the middle sector of therapy included session 5 – 12, and the late sector of therapy included sessions 13 – 16. It was hoped that dividing the sessions into 3 sectors (rather than 6 sectors as in Study 1) would maximise the opportunity for a greater number of relationship episodes per sector, and therefore more meaningful analysis of the data. Four transcribed sessions were then randomly selected for each of the 24 cases.

However, sector 1 typically included sessions 1 and 3, sector 2 typically included sessions 7 and/or 8, and sector 3 typically included session 12 and/or 14. A total of 99 psychotherapy sessions were obtained, giving a mean of 4.1 sessions per patient. Table 4 shows the average number of relationship episodes scored for each sector of treatment.

Table 4: Distribution of REs and Sessions across the 3 sectors of psychotherapy.

	Early Sector of therapy	Middle Sector of therapy	Late Sector of therapy	Total
Relationship Episodes (REs)	260 (mean 10.8)	134 (mean 5.6)	151 (mean 6.3)	545 (mean 22.7)

The scoring of the transcripts, identification of REs, application of the CCRT tailor-made method, and CCRT-LU scoring system was used in accordance with the procedure indicated in Study 1. Briefly then, the CCRT tailor-made method was applied to identified REs in each transcribed session. The reformulated CCRT-LU category system (Albani et al., 2002) was then employed to complete the scoring and categorization of transcripts. The three components (W, RO, and RS) were retained for analysis. The scorer (D.C) was blind to the outcome of each case (good vs. poor outcome).

Outcome measures.

Since an observation of trends in anxiety and depression scores showed improvement over the course of psychotherapy for THC cessation in a single case study (Solowij et al., 1995), and in Study 1, these measures will be adopted in study 2. Similarly, scores yielded from the Global Assessment of Functioning (GAF) and the Symptom Checklist-90-Revised (SCL-90-R) indicated lower distress levels and good overall functioning in other research (Solowij et al., 1995) as well as in Study 1. The data obtained from these measures will also

be adopted in Study 2. In addition, data on drug use was collected with the identical procedure as Study 1. That is, at the initial and the final session of psychotherapy (four months post commencement), the number of days per month where the patient used cannabis was recorded. The number of abstinent patients at psychotherapy completion (final session) was also calculated. This data will be used in Study 2.

Pervasiveness.

The equation used to measure Pervasiveness in Parker (2004)’s study was;

$$\text{Pervasiveness-Wollongong} = \frac{\text{Number of categories endorsed within a sector of therapy}}{\text{Total Number of CCRT categories available (30)}}$$

However, the utilization of this equation in Study 2 is considered problematic. If this equation is employed, there may be a limitation of applicability to a smaller sample size, or a smaller sample of sessions for each patient. Therefore, the current study has modified this equation to be more relevant to a sample with a lower average number of psychotherapy sessions. This choice for modification is thought to help capture the true nature of Pervasiveness that may be present in lieu of exhaustive sessional data. Pervasiveness was therefore estimated by the spread of distinct relationship themes across the components as measured by the CCRT-LU system. This analysis was conducted on the CCRT-LU categories (30) across 3 sectors of therapy (early, middle, and late) and consisted of the equation:

$$\text{Complexity} = \frac{\text{Number of Categories that are Endorsed in a sector of psychotherapy}}{\text{Total Number of REs x Number of CCRT-LU Coding Sub-dimensions}}$$

The numerator in this equation is no different to Parker (2004)'s method of calculating Pervasiveness-Wollongong. However, the denominator differs. This new method aims to calculate the degree of opportunity available for CCRT category endorsement. Firstly, an RE is seen as an opportunity to express a relational theme or CCRT components. Following this, the sub-dimensions of direction for the CCRT-LU for each component (W, RO, and RS) add more opportunity to express relational themes. The W may be considered to have 4 opportunities (WOO, WSS, WSO, and WOS) to express relational themes; the RO and RS may be considered to offer two opportunities (ROO, ROS, RSS, and RSO) to express relational themes. Hence, the greater the number of CCRT-LU sub-dimensions that are endorsed within an RE, the greater the richness of relationship themes experienced by an individual.

This greater opportunity to articulate wishes, responses of other, and of self (as allowed by the sub-dimension of direction of the CCRT-LU), creates an opportunity for a more complex understanding of relationship patterns. In the traditional method of the CCRT standard categories, this greater opportunity to express relational themes may be considered limited relative to the CCRT-LU. For example, the endorsement of the W by the CCRT-LU scoring system allows between one and four opportunities to express relational themes; the CCRT provides opportunity for one relational theme to be expressed. It is considered in this study that if a patient endorses 3 of the 4 sub-dimensions of the CCRT-LU for the W, that patient may have a more complex understanding of the interpersonal pattern relative to a patient that has endorsed the W (as allowed by the CCRT standard category approach). Hence, this aspect of Pervasiveness will be termed *Complexity*. An increase in Complexity (as indicated by a greater utilisation of CCRT-LU sub-dimensions) would therefore indicate

more awareness of relational themes regarding the self and other, and therefore create potential opportunity to demonstrate mastery. With respect to the denominator of the equation for calculation of Complexity, the number of REs is thus multiplied by the Number of sub-dimensions of direction for the CCRT-LU for each component ($W = 4$, RO and RS = 2).

Furthermore, Cierpka et al. (1998) note that Luborsky and Crits-Christoph (1998)'s method of evaluating rigidity of relational themes may be excluding important dynamics among interpersonal interactions. They argue that since this traditional method of evaluating rigidity focuses on the central theme, it limits the capture of multiple themes manifesting within specific situations. Cierpka et al. (1998) posit that focusing on the final CCRT does not take into account what is told by the patients in the narrative and scored by the judges, aside from this final CCRT. Thus, calculating the Pervasiveness score of this final CCRT may in fact disregard important content of other relationship episodes, which were scored using categories and clusters. This line of thought engages the debate about the possible occurrence of multiple, rather than single, relationship patterns (Crits-Christoph et al., 1994; Horowitz, 1991).

These researchers therefore suggest that patients may express CCRT patterns utilising a wide range of scoring categories and thus demonstrate interpersonal resources in varying relationship experiences. This method of measuring Pervasiveness is referred to as *Dispersion* (Cierpka et al., 1998). The associated method for measuring Dispersion is:

$$\text{Dispersion} = \frac{C}{C_{\max}}$$

Where:

$$C = 1 - \frac{\text{sum of squared relative frequencies of codings in each cluster (for W, RO \& RS)}}{\text{Maximum value of C for a given number of codings (for W, RO \& RS)}}$$

C_{\max} is based on the total number of codings as listed in Table 5.

Table: 5: Basis for which the formula for Dispersion is derived.

Total number of codings (m) (either W, RO or RS)	$C_{\max} =$
1 – 8	$1 - m \times (1/m)^2 = 1 - (1/m)$
9 – 16	$1 - [(m - 8) \times (2/m)^2 + (8 - (m - 8)) \times (1/m)^2]$
17 – 24	$1 - [(m - 16) \times (3/m)^2 + (8 - (m - 16)) \times (2/m)^2]$
25 – 32	$1 - [(m - 24) \times (4/m)^2 + (8 - (m - 24)) \times (3/m)^2]$
33 – 40	$1 - [(m - 32) \times (5/m)^2 + (8 - (m - 32)) \times (4/m)^2]$
41 – 48	$1 - [(m - 40) \times (6/m)^2 + (8 - (m - 40)) \times (5/m)^2]$

Adapted from Cierpka et al. (1998), p 243 – 244.

Cierpka et al. (1998) implemented their formula, and reported significantly higher Dispersion scores for normal subjects relative to clinical populations. In light of the debate regarding the difficulty in measuring the true nature of rigidity of relationship patterns, both measures of Complexity and Dispersion will be adopted Study 2. The Pervasiveness index in the Study 2 is therefore comprised of two sub-indices: Complexity and Dispersion.

Valence.

Valence is measured using a four-category positive and negative scale where '1' is strongly negative, '2' is negative, '3' is positive, and '4' is strongly positive. Judges rate the degree of positivity and negativity for the response of other (RO) and the response of self

(RS) within each relationship episode (RE) (Grenyer & Luborsky, 1998). In this study however, scorers used the four-category scale with an opposite polarity where '1' is strongly positive, '2' is positive, '3' is negative, and '4' is strongly negative. Thus, a significant shift from negative to positive Valence in this Study will be indicated by a reduction of scores in this index of change.

Results

Research Aim 1: To what extent are the CCRT patterns of 24 cannabis users modifiable?

Research Aim 2: How do these results correlate with measures of greater improvement and clinical change?

Research Model & Hypotheses: Study 2 hypothesized that greater improvement and clinical change over the course of psychotherapy will be predicted by:

- (i) More Harmonious CCRT categories as measured by the CCRT-LU.
- (ii) More positive CCRT Valence as measured by the CCRT-LU.
- (iii) Lower CCRT Pervasiveness (Dispersion and Complexity) as measured by the CCRT-LU.

The following analyses were performed with respect to these hypotheses.

Analyses.

In accordance with the research model, calculations related to the Pervasiveness, Harmony, and Valence indices were performed in order to determine the changes in CCRT patterns over the 3 sectors of psychotherapy. A multiple regression was therefore implemented in order to test this change in CCRT patterns for each index. Analyses regarding each index, and its relationship with greater improvement and clinical change, were conducted by employing regression and correlation. Here, residual change scores were

calculated. For all analyses, statistical significance was set at $p = .05$. The statistical program, SPSS version 11.5 for Windows (Chicago, IL., USA), was used for data analysis.

For all outcome data analyses, a multilevel (mixed) model approach was used to ensure all data were retained (Gueorguieva & Krystal, 2004) with time (intake versus termination) as a repeated measure. SPSS version 11 (Chicago, IL., USA) was employed using the Linear Mixed Models module.

Inter-rater reliability.

A weighted kappa (kw: Cohen, 1968) was applied and yielded a high inter-rater reliability. Judge B (LP) scored approximately 17% of the cases using the CCRT-LU methodology giving an inter-rater reliability of $kw = .66$. This result is consistent with other findings (Luborsky & Diguier, 1998; Parker & Grenyer, 2007).

Outcome measures.

The significance of the relationship between CCRT indices of change and outcome links can be better understood by first examining the pattern of outcome data recorded at initial and final sessions of psychotherapy for the 24 cases of cannabis users.

A multilevel (mixed) model approach showed that there was a significant effect of time, $F(1, 44) = 16.18, p = .00$; mean BDI intake = 15.46 and BDI termination = 6.42, but not group, $F(1, 44) = 2.85, p = .10$, and no interaction of group x time, $F(1, 44) = .25, p = .62$.

In regards to the BAI, there was a significant effect of time, $F(1, 44) = 5.97, p = .02$; mean BAI intake = 9.54 and BAI termination = 4.96, but not group, $F(1, 44) = .36, p = .55$, and no interaction of group x time, $F(1, 44) = .31, p = .58$. Mean scores between initial and final sessions for BDI and BAI are represented in Figure 5. Given that there was no

significant effect of group, data are represented in Figure 5 for all patients independent of group.

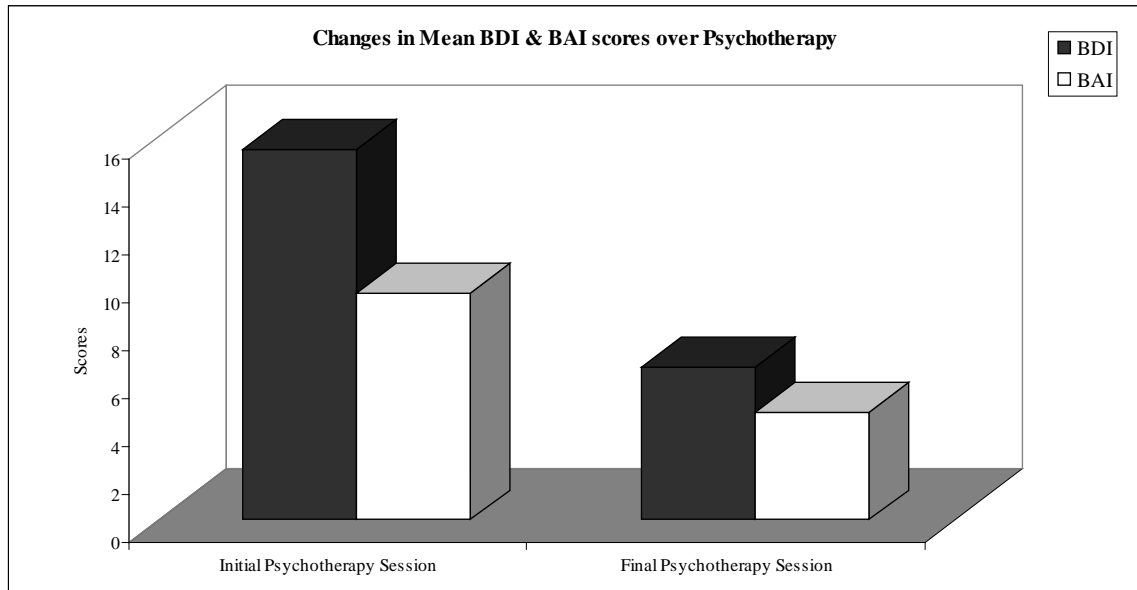


Figure 5: Mean BDI and BAI scores for all patients from initial session to the final session of psychotherapy.

There was a significant effect with respect to the GAF for time, $F(1, 44) = 26.9$, $p = .00$; mean GAF intake = 62.20 and GAF termination = 74.25, but not group, $F(1, 44) = 2.55$, $p = .12$, and no interaction of group x time, $F(1, 44) = .31$, $p = .58$. Furthermore, SCL-90-R showed similar results. There was a significant effect of time, $F(1, 44) = 21.98$, $p = .00$; mean SCL-90-R intake = .98 and SCL-90-R termination = .45, but not group, $F(1, 44) = .23$, $p = .63$, and no interaction of group x time, $F(1, 44) = .26$, $p = .62$. Mean scores for GAF and SCL-90-R for initial and final psychotherapy sessions are presented in Figure 6 and 7, respectively. Given that there was no significant effect of group, data are represented in Figure 6 and 7 for all patients independent of group.

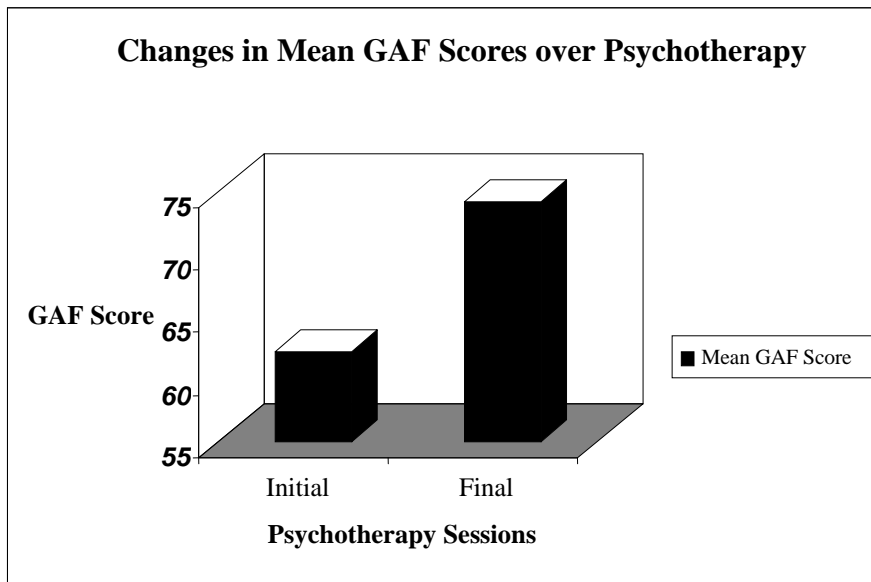


Figure 6: Mean GAF scores (represented as a %) from initial to final psychotherapy sessions for all patients.

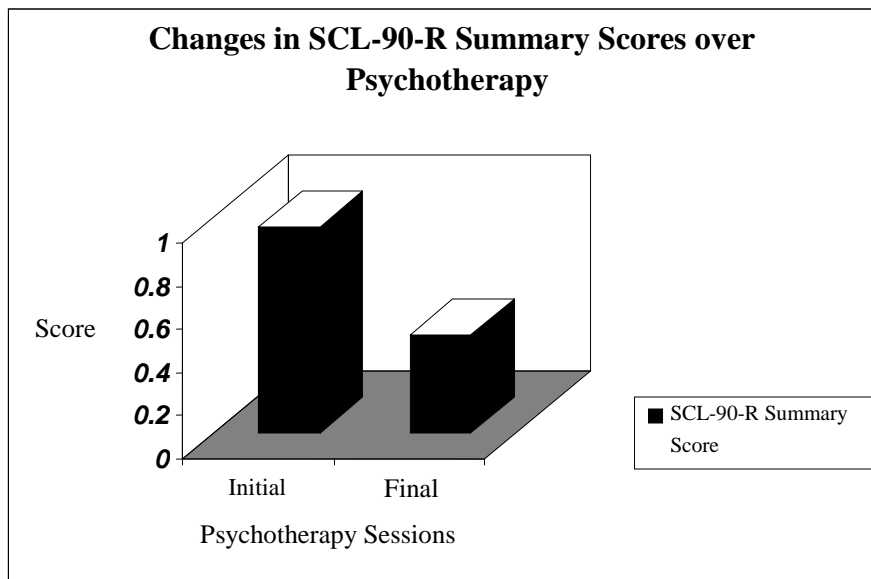


Figure 7: Mean SCL-90-R summary scores from initial to final psychotherapy sessions for all patients.

Drug use data (Abstinence & number of days of cannabis use per month).

There are significant differences in the frequency of Cannabis abstinence following the completion of psychotherapy. For all 24 cannabis users, the results show that a greater number of patients are abstinent after 4 months of therapy: Chi-square (2, N = 24) = 4.17, p

= .04. With respect to the number of days per month patients used cannabis, there was a significant effect of time ($F = 105.35$, $p = .00$; mean number of days of cannabis use in one month at intake = 19.62 and at termination = 12.71). Group was also significant ($F = 9.88$, $p = .00$), but there was no interaction of group x time ($F = .69$, $p = .41$). Patients significantly reduced the number of days in one month they used cannabis over the three sectors of psychotherapy, and the good outcome group appeared to have an effect on the level of cannabis reduction. Those in the good outcome group appeared to have a greater reduction in cannabis use (mean use at intake = 24.92 days/month and at termination = 5 days/month) relative to the poor outcome group (mean use at intake = 30 days/month and at termination = 9.2 days/month).

Pervasiveness

The Pervasiveness calculations were the first source of investigation into the changes in CCRT patterns over the course of psychotherapy. The dichotomy of Pervasiveness is described below using Complexity and Dispersion sub-indices, representative of overall rigidity of relationship patterns. It is predicted that Complexity and Dispersion scores will increase over the sectors of treatment, suggesting that more CCRT-LU categories will be endorsed in the last sector, relative to the first sector of treatment. The following sections will review these sub-indices independently.

Complexity.

The difference in the Complexity sub-index over sectors of treatment for the W component was not significant, $F(2, N = 24) = 3.73$, $p = .29$. This suggests that the wish component has not significantly changed across the 3 sectors of treatment. An observation of trends in Complexity for the W component over sectors shows its relative stability in Figure

8. In contrast, the difference in the Complexity sub-index for the RO component was significant, $F(2, N = 24) = 4.88, p = .01$, producing an effect size of .14, and this increase over time is illustrated in Figure 8. The RS component however, was not significant, $F(2, N = 24) = .49, p = .62$, and is also depicted in Figure 8. Both time (sectors of therapy) and group together, explain 12.3% of the variance. However, time ($t = 3.00, p = .00$) contributed significantly more to change than group ($t = -.80, p = .43$). Thus, data is represented in Figure 8 independent of outcome group.

These results suggest that over the course of psychotherapy, patients endorsed a higher number of CCRT-LU categories relating to the response of other component only. There is no significant shift toward a greater or lesser number of relational themes regarding the wish and response of self within interpersonal narratives after 3 sectors psychotherapy. Hence, it may be considered that individuals with cannabis dependence only show some degree of significant Complexity in relational themes over psychotherapy and when rigidity lessens, it is mainly due to a change in others' responses to the patient. The changes that occur over time do so irrespective of abstinence status.

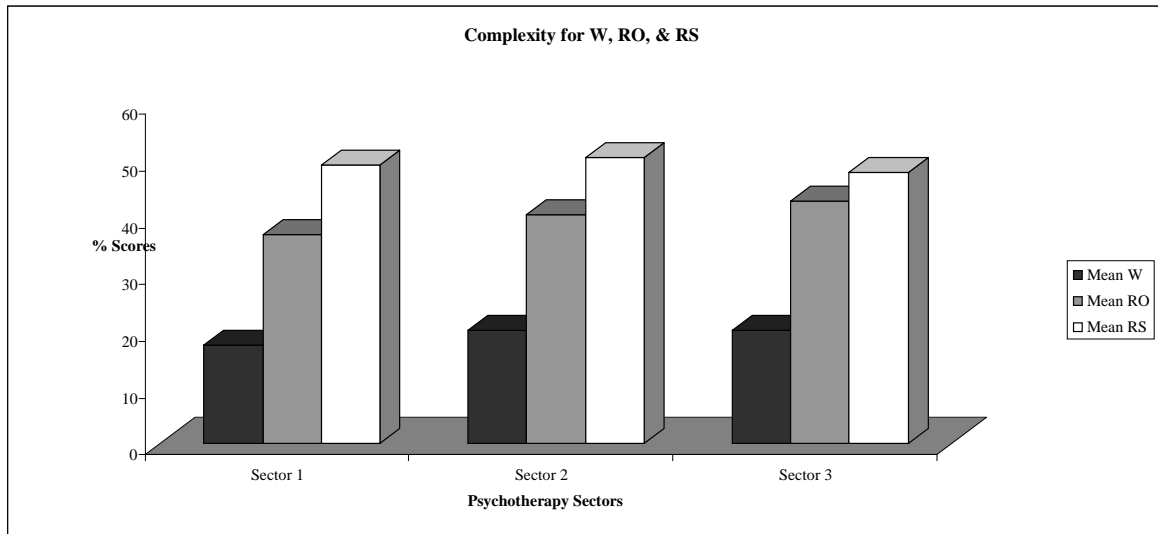


Figure 8: Mean Complexity scores across the three sectors of psychotherapy for the W, RO, and RS, irrespective of group.

Complexity & outcome data.

Complexity of the W component remained stable, and this did not significantly correlate with changes in BDI scores over the course of psychotherapy, $r = -.26$, $p = .23$. Similarly, there was no significant correlation between changes in Complexity regarding the RO and changes in BDI scores, $r = .02$, $p = .92$; or between changes in Complexity for the RS and the BDI scores, $r = -.13$, $p = .54$ (Table 6). Despite an improvement in Complexity for the RO, this was not related to an improvement in depression scores. Similarly, Complexity did not correlate with other outcome data. Complexity did not significantly correlate with changes in the BAI scores over the three sectors of therapy for each component of the CCRT: W ($r = -.19$, $p = .37$); RO ($r = -.02$, $p = .93$); and RS ($r = .17$, $p = .43$) as seen in Table 6.

There was no significant relationship with changes in the GAF scores, with respect to the W ($r = .17$, $p = .43$); RO ($r = .12$, $p = .56$); and RS ($r = .06$, $p = .79$) components (Table 6). Changes in the Complexity sub-index did not significantly correlate with changes

in the SCL-90-R with respect to the W ($r = .27, p = .20$); RO ($r = .12, p = .59$); and RS ($r = -.18, p = .40$) over psychotherapy sectors (Table 6). This suggests that as fewer symptoms were endorsed on the SCL-90-R by patients, no relationship occurred with changes in Complexity of the relationship pattern.

Furthermore, changes in the Complexity sub-index did not significantly correlate with patient's drug use, as measured by number of days of THC use in one month, over the psychotherapy sectors. This was true regarding the W ($r = .31, p = .15$); the RO ($r = .364, p = .08$); and the RS ($r = -.04, p = .84$) components of the CCRT (Table 6). Changes in the Complexity of the relational style were unrelated to changes in drug use data.

Dispersion.

The difference in Dispersion scores over sectors of treatment was not significant for each component: W [$F(2, N = 24) = 2.23, p = .12$]; RO [$F(2, N = 24) = 1.34, p = .27$]; and RS [$F(2, N = 24) = .66, p = .52$]. As Cierpka et al. (1998) suggests, an increase in mean Dispersion scores over time is an indication of an increase in flexibility of relationship patterns. These results therefore demonstrate highly stereotypical repetitions of codings in the same cluster. Figure 9 shows changes in Dispersion across sectors for CCRT components for all patients independent of group.

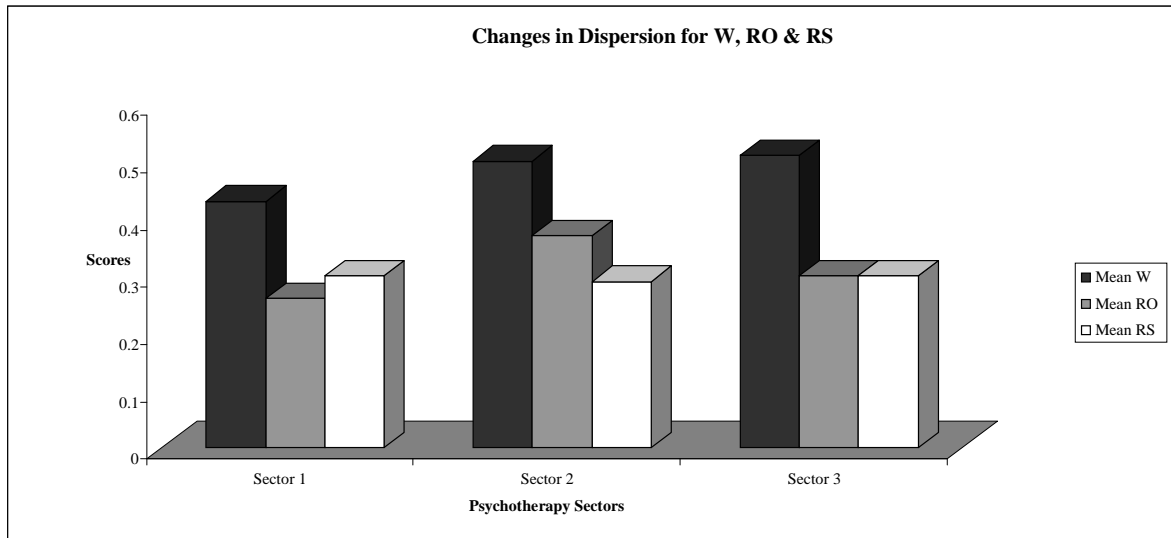


Figure 9: Changes in Dispersion across 3 sectors of psychotherapy for the W, RO, and RS. Dispersion scores were collapsed across groups.

Dispersion and outcome data.

There was no significant correlation between changes in Dispersion scores and changes in BDI scores with respect to the W ($r = -.31, p = .14$); RO ($r = -.17, p = .44$); and RS ($r = -.12, p = .60$) over the course of psychotherapy. In fact, Dispersion scores did not correlate significantly with any outcome data variables (Table 6). For BAI: W ($r = .35, p = .10$); RO ($r = .22, p = .30$); and RS ($r = .17, p = .42$). For the GAF: W ($r = -.26, p = .23$); RO ($r = -.11, p = .62$); and RS ($r = -.01, p = .97$). For the SCL: W ($r = -.28, p = .18$); RO ($r = -.23, p = .29$); and RS ($r = -.26, p = .21$). With drug use data: W ($r = -.32, p = .13$); RO ($r = -.31, p = .14$); and RS ($r = -.32, p = .13$). There is no relationship between scores that measure the Dispersion of scored codings and measures of psychological distress and functioning.

Harmony.

The Harmony index calculations were used to demonstrate changes in CCRT patterns across psychotherapy. It is predicted that for each component (W, RO, and RS), there will be a trend toward more Harmonious themes across the three sectors of

psychotherapy. The difference in Harmony index scores over the three sectors of psychotherapy for the W component was not significant, $F = 1.19$ (2, $N = 24$), $p = .31$. This suggests that patients themes in relation to the wish did not significantly become more Harmonious over the course of psychotherapy. The difference in the Harmony index over the three sectors of psychotherapy for the RO component was significant, $F = 4.42$ (2, $N = 24$), $p = .02$, producing an effect size of .13. Both variables explain 11.4% of the variance in changes of Harmony scores over psychotherapy. Sectors of treatment (time factor) significantly contributed toward change in this index regarding the RO component, $t = 2.97$, $p = .00$, and outcome of both groups (group factor) did not significantly contribute, $t = -.16$, $p = .99$. This suggests that patient's themes relating to the response of other became more Harmonious, over the course of psychotherapy, irrespective of abstinence status.

The change in Harmony index in relation to the RS component was also significant, $F = 9.19$, (2, $N = 24$), $p = .00$, producing an effect size of .27. Time and group explained 21% of the variance. Sectors of treatment significantly contributed toward a change in this index regarding the RS components, $t = 4.22$, $p = .00$; group did not significantly contribute toward improvement, $t = -.77$, $p = .44$. Endorsed themes regarding the response from self became significantly more Harmonious over the course of psychotherapy independent of abstinence status. These results are depicted in Figure 10.

Although Harmony of the W is non-significant, Figure 10 shows that Harmony is consistently high across sectors of psychotherapy. Thus, although no significant change occurred, patients are likely to be experiencing, on average, Harmonious wishes in their interpersonal interactions.

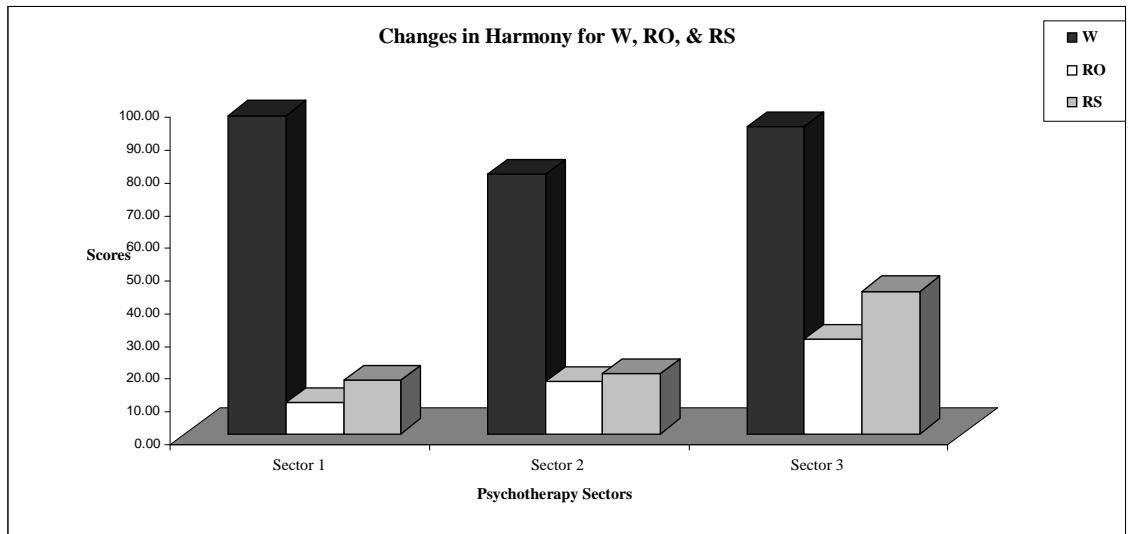


Figure 10: Changes in Harmony, represented as a percentage, across the three sectors of psychotherapy for the W, RO, and RS for all patients.

Harmony & outcome data.

Changes in the Harmony index regarding the W did not significantly correlate with residualised changes in BDI scores over the course of psychotherapy, $r = -.20$, $p = .36$ (Table 6). Similarly, there was no significant correlation between changes in the Harmony index regarding the RO and changes in BDI scores, $r = -.26$, $p = .23$ (Table 6). However, there was a significant correlation between changes in the Harmony index for the RS component and BDI scores, $r = -.51$, $p = .01$ (Table 6). Hence, as the response of self became more Harmonious over the three sectors of psychotherapy, BDI scores decreased, and therefore improved.

Changes in the Harmony index did not significantly correlate with changes in the BAI scores over the three sectors of therapy. As seen in Table 6, this was true for each component of the CCRT: W ($r = .22$, $p = .29$); RO ($r = -.35$, $p = .10$); and RS ($r = -.37$, $p = .08$). Table 6 also shows that changes in the Harmony index did not significantly correlate with changes in the GAF scores, with respect to the W ($r = .10$, $p = .64$) and RO ($r = .32$, $p =$

.13) components. However, changes in the Harmony index regarding the RS significantly correlated with residualised changes in GAF scores over the sectors of therapy ($r = .50$, $p = .01$, Table 6). Hence, as RS components became more Harmonious over therapy, global functioning scores improved.

Changes in the Harmony index significantly correlated with the SCL-90-R for the RS component ($r = -.49$, $p = .02$) over therapy sectors. This suggests that as fewer symptoms were endorsed on the SCL-90-R measure by patients, the RS component became more Harmonious (Table 6). However, there was no significant correlation between Harmony and the SCL-90-R for the W component ($r = -.14$, $p = .51$) or for the RO component ($r = -.04$, $p = .85$, Table 6).

Changes in the Harmony index did not significantly correlate with drug use, as measured by number of days of THC use in one month, over the therapy sectors. This was true regarding the W ($r = -.29$, $p = .17$); the RO ($r = .03$, $p = .90$); and the RS ($r = -.16$, $p = .46$) components of the CCRT (Table 6).

Valence.

The Valence index was the third source of investigation into the changes in CCRT patterns over the course of psychotherapy. It is predicted that Valence will shift from negative to positive over the three sectors of treatment. The difference in the Valence index over treatment for the RS component was significant, $F(2, 46) = 5.24$, $p = .01$, with an effect size of .15. The RO component was also significant, $F(2, 46) = 3.32$, $p = .04$, producing an effect size of .10. The Valence was therefore rated as becoming significantly more positive over sectors of treatment for the response of other and response of self component. Hence, there was an increase in a patient's description of interpersonal

interactions without an expectation of interference with the wish, and a possible gain of mastery.

The significant improvement in this index, regarding both components, appears to be significantly influenced by the sectors of treatment. Time significantly contributed toward a change in this index regarding the RO component, $t = -2.10$, $p = .04$, and outcome of both groups (group factor) did not significantly contribute, $t = 1.50$, $p = .04$. Furthermore, both variables explain 8.8% of the variance of Valence scores. Similarly, sectors of treatment significantly contributed toward a change in this index regarding the RS components, $t = -2.75$, $p = .01$, and group did not significantly contribute toward improvement, $t = 1.71$, $p = .09$. Both variables explain 13.2% of the variance of Valence scores. The changes for the RO and RS Valence are depicted in Figure 11, for all patients independent of group.

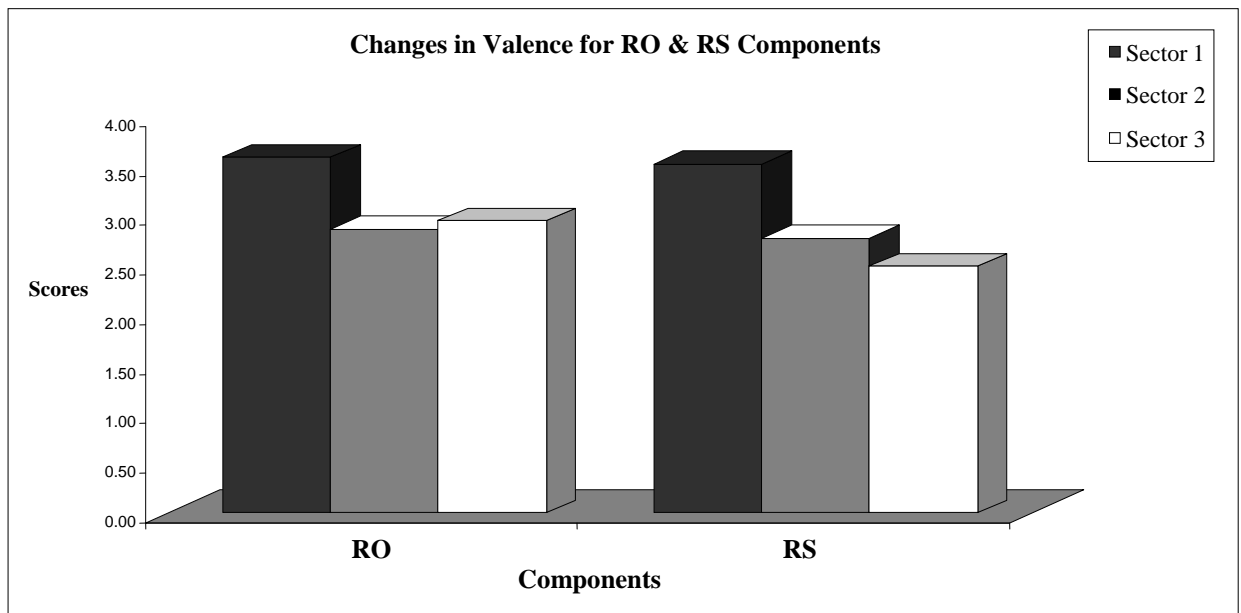


Figure 11: Changes in Valence for the RO and RS over the three sectors of psychotherapy for all patients.

Valence & outcome data.

Changes in the Valence index regarding the RO significantly correlated with residualised changes in BDI scores over the course of psychotherapy, $r = .42$, $p = .04$ (Table 6). Similarly, there was a significant correlation between changes in the Valence index regarding the RS and changes in BDI scores, $r = .63$, $p = .00$ (Table 6). This suggests that as the Valence of the RO and RS became more positive over the three sectors of psychotherapy, BDI scores improved, $r = -.51$, $p = .01$ (Table 6). Similarly, changes in the Valence index significantly correlated with changes in BAI scores over the sectors of therapy. This was the case with both the RO ($r = .51$, $p = .01$) and the RS ($r = .50$, $p = .01$, Table 6). This suggests that as the Valence for RO and RS improved, anxiety scores improved. As seen in Table 6, changes in the Valence index significantly correlated with changes in the GAF scores with respect to the RO component ($r = -.42$, $p = .04$) and the RS component ($r = -.63$, $p = .00$). Hence, as RO and RS components became more positive over therapy, global functioning scores improved.

Although changes in the Valence index significantly correlated with the SCL-90-R for the RS component ($r = .44$, $p = .03$), it did not correlate with the RO component ($r = -.04$, $p = .84$, Table 6). This suggests that as the Valence was rated as more positive for the RS component, fewer symptoms were endorsed by patients on the SCL-90-R. Changes in Valence index did not significantly correlate with changes in patient's drug use over the therapy sectors for the RO ($r = -.00$, $p = .99$) or the RS ($r = .14$, $p = .52$) components.

Table 6: Pearson Correlations, using residual change scores, between the Pervasiveness, Harmony and Valence indices, and outcome measures

Outcome Measure	PERVASIVENESS						HARMONY			VALENCE	
	Dispersion			Complexity			W	RO	RS	RO	RS
	W	RO	RS	W	RO	RS					
BDI	-0.31	-0.17	-0.14	-0.26	0.02	-0.13	-0.20	-0.26	-0.51*	0.42*	0.63*
BAI	0.35	0.22	0.17	-0.19	-0.02	0.17	0.22	-0.35	-0.37	0.51*	0.50*
GAF	-0.26	-0.11	-0.01	0.17	0.12	0.06	0.10	0.32	0.50*	-0.42*	-0.63*
SCL-90-R	-0.28	-0.23	-0.26	0.27	0.12	-0.18	0.14	-0.04	-0.49	-0.04	0.44*
Drug Use	-0.32	-0.31	-0.32	0.31	0.36	-0.04	-0.29	0.03	-0.16	-0.00	0.14

* $p < .05$ (1-tailed).

Wishes in relationship patterns.

Research Aim 1: Can Luborsky et al. (1994)'s four principles be used as guidelines for making inferences about less conscious wishes from the relatively conscious CCRT wish components expressed in narratives?

Research Aim 2: How might this contribute to our understanding of the W and the CCRT?

Case studies.

Two cases were randomly selected from the data set of 24 cannabis users in order to closely examine the processes of the wish component within the psychotherapy of drug dependence. One case was obtained from the good outcome data set and the second was obtained from the poor outcome data set. Previous, but common, reports of the refractory nature of the wish component suggests that it is not well understood. The moderate improvement in the wish regarding Pervasiveness-Wollongong in Study 1 contrasts the findings of previous research as well as those results yielded in Study 2. Hence, this part of Study 2 aims to examine whether the identification of less conscious wish processes in

psychotherapy helps us understand its unchanging nature. Two cases, Helen and Colin, were randomly selected from the poor outcome and good outcome groups from the 24 cases used in Study 2. These cases were considered appropriate due to the relatively high Pervasiveness (as measured by the Complexity sub-index) of the wish across the three sectors of psychotherapy. The case of Colin was deemed to be representative of a poorer outcome due to the continuance of cannabis use at final session and at the follow-up interview. The case of Helen was deemed to be a good outcome case since she remained abstinent from cannabis at final session and at follow-up. Relationship episodes derived from the transcribed sessions for both cases were scored using Luborsky et al. (1994)'s principles for less conscious CCRT components. The CCRT wish components in each RE, and the nature of change over the course of psychotherapy according to the CCRT-LU scoring system, were re-considered in context to each of these principles.

Psychotherapy patient 1: The case of Helen.

Helen, a 42 year old married female, reported that she was an investigative journalist for 11 years, and had been with her partner for 12 years. She studied a full time law degree, and described herself as having an “addictive personality” and as being “quite strong willed”. She reported that despite several ectopic pregnancies leading to major surgery, they were able to have a daughter together, who was 7 years of age. Helen met criteria for Cannabis Dependence with a 20 year history of use. Helen reported her goals to “stop using marijuana”, “to be more systematic in the management of my university law subject”, and to “look at some issues with (my) mother” (p. 7). Helen attended 14 SE psychotherapy sessions. She initially reported smoking cannabis every day however, at 4 months follow-up (final psychotherapy session) she ceased all use which was maintained at 12 months follow

up. This placed her within the good outcome group. Her initial depression score of 18, as measured by the BDI, placed her within the moderate range. Her BDI score reduced to a 'normal' level at end of psychotherapy and at 12 months follow up. Similarly, her anxiety scores, as measured by the BAI, were recorded as 32 (moderate range), which dropped to 12 (low range) at final session. Helen's psychological symptom profile, as measured by the SCL-90-R, improved with an initial Summary Global Index score of 1.29 that reduced to .13. Her global functioning also improved, with an initial GAF score of 58 which increased to 77.

Psychotherapy patient 2: The case of Colin.

At the initial psychotherapy session, Colin reported that he was a 28 year old single male that worked in the finance industry as a sales forecaster. He was also studying at university, and due to his employment requirements he often worked extremely long hours. As a result, he reported very poor sleep: averaging 3 – 4 hours of sleep per night. He reported that he wanted to "kick the addiction", and also address longstanding relationship problems because his second marriage was unsuccessful. He reported an 8 year history of Cannabis Dependence with daily use. Colin reported daily cannabis use at the final session of psychotherapy however, this reduced to 19 days per month at 12 months follow-up. His initial BDI scores were 19, which worsened slightly to 22 at final session, placing Colin's experience of depressive symptoms in the 'moderate' range throughout psychotherapy. Similarly, his BAI scores were reported at initial session as 11, which increased to 17 at final session, placing his experiences of anxiety in the 'low' range. Colin experienced almost no significant improvement in his psychological symptom profile. His SCL-90-R summary global index scores reduced from .90 to .89. He experienced mild improvement in global

functioning with an initial GAF score of 65, which increased to 70 at completion of psychotherapy.

Case study results.

Figure 12 shows a comparison of W Complexity between the mean for all 24 cannabis users, Helen, and Colin. Both Helen and Colin have lower average Complexity over the course of psychotherapy (with one exception for Helen in the middle phase of psychotherapy). This suggests that Helen and Colin suffered more rigidity in their relationship conflicts relative to the average for cannabis users. This may render these two cases promising when endeavouring to understand whether processes of the wish contribute toward continual of interpersonal conflict.

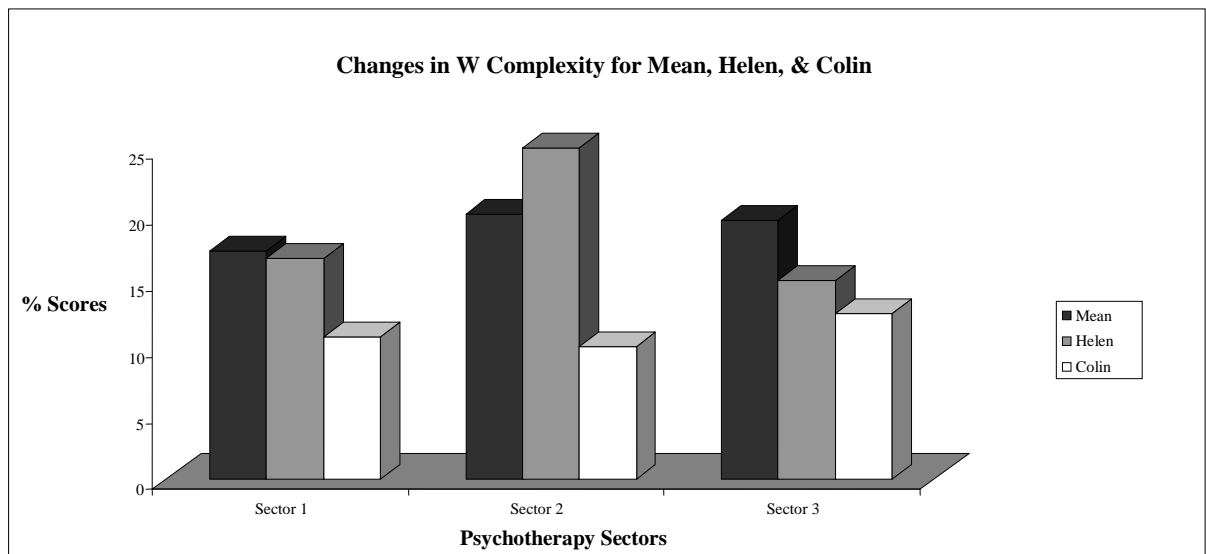


Figure 12: Comparison of changes in the W Complexity for the Mean, Helen, and Colin, over the 3 sectors of psychotherapy.

The case of Helen: Illustration of principle 2.

“Principle 2 is that a wish that is frequently expressed, but in a moderate degree, might have a similar but less conscious version that is more intense. For example, a patient might report

feeling annoyed, and yet this awareness may be only for the tip-of-the-iceberg less intense part of the anger” (Luborsky et al., 1994, p. 180).

All REs in sector 1 involve Helen’s mother as the object. Her most frequent CCRT consists of a wish for help from her mother. This wish appears in almost all interpersonal interactions involving her mother in this first sector of psychotherapy. Helen experiences her mother as neglecting or critical, as represented by the RO in each CCRT. As a result, Helen responds by feeling angry. Helen’s relationship pattern appears conflictual: A rigid wish exists in Helen’s interactions with her mother, consistently Disharmonious categories are endorsed for the response of other and self, and a negative Valence overall is apparent.

In sector 2, the most common objects expressed by Helen included a university lecturer and her mother. The CCRT involving the university lecturer appeared to consist of components common to her interpersonal interactions with her mother. Here, Helen wished for help and support, but experienced other as provoking and unsupportive. As a result, Helen became frustrated and upset. Her interpersonal interactions with her mother appear to shift in this sector. Helen expresses a wish to be close to her mother, and reports that she experiences her mother as controlling. Helen responds to this negative and Disharmonious response of other by distancing herself. This expressed wish may be viewed as a more intense version of her Pervasive wish for help from her mother. That is, her wish to be close to her mother may in fact be a more intense version of her wish for help from her mother. Since this wish has not been expressed until session 7 of sector 2, it may be considered that this intense version of the wish may have remained less conscious until this time. This notion may be considered consistent with the basic tenets of SE dynamic psychotherapy. That is, the implementation of expressive techniques toward the middle phase of

psychotherapy aims to encourage previously repressed material to be expressed, understood, and resolved by the patient (Book, 1998). If considered in this way, this shift in Helen's CCRT may highlight the potential existence of Luborsky et al. (1994)'s Principle 2.

The final sector of psychotherapy showed relationship episodes involving Helen and her husband. These interactions appear to have a positive Valence and are Harmonious in nature. Helen wishes for closeness with her husband, he responds by being supportive, and she finds security in their relationship. Of interest, is the decrease in the number of REs involving her mother in this final sector relative to earlier sectors. The CCRT involving her mother describes a wish for communication, a slightly controlling response of other, and a response of self showing interest. The change in Valence of the RS from a negative to positive dimension may indicate some mastery in coping with the wish (Grenyer & Luborsky, 1998).

The case of Colin: Illustration of principle 1.

“Principle 1 is that the opposite of the main CCRT components are likely to be part of the less conscious conflicts” (Luborsky, et al, 1994, p 180).

The most common object featured in Colin's relationship episodes is the self. In fact, 13 from a total of 18 relationship episodes were self directed. Colin's main CCRT in sector 1 involved the endorsement of the wish consistently from the CCRT-LU (Albani et al., 2002)'s cluster level: D2 – ‘being autonomous’. Here, his self-directed wishes were for success, achievement, and perfection. Colin experienced himself as critical, pressuring, or avoidant, with a consistent Disharmonious response of other. As a result, Colin felt upset, disappointed, and anxious.

Although self directed REs also dominated sector 2, a shift in the wish component becomes apparent. His pervasive CCRT arises where he wishes for success, responds by putting pressure on himself, and then feels anxious and sad. However, one RE narrated by Colin includes a wish to be cared for. His response to this wish is to strive for perfection and achievement, and he becomes upset as a result. His wish to be cared for may be considered to have some polarity with his previous consistent wish for autonomy, success, and achievement. It also appears that this opposite wish component is expressed in session 7 of sector 2 of psychotherapy, where expressive techniques may have been employed to help express and resolve unconscious conflicts (Book, 1998). This shift in Colin's CCRT may highlight the potential existence of Luborsky et al. (1994)'s Principle 1.

The final sector of psychotherapy highlights a re-emergence of consistent self directed REs with the pervasive CCRT. Despite the expression of a wish opposite to the wish in the main CCRT pattern, Colin continues to express a wish for success, personal achievement, and change. The response of other component involves avoidance and criticism, and he responds to this by feeling anxious and angry. The slight appearance of the less conscious wish to be cared for in session 7, and its disappearance by the end of treatment, might have influenced Colin's response to therapy. That is, an important link may exist between his continued use of cannabis, his disavowal of a potentially helpful wish component, and his poor levels of Complexity.

Conclusion

Study 2 sought to advance Study 1 by adopting a more rigorous empirical approach to investigate the process-outcome links of 24 cannabis users. This study aimed to understand the extent to which CCRT patterns of 24 cannabis users are modifiable. It was

hypothesized that greater improvement and clinical change over the course of psychotherapy will be predicted by improvement in three indices of change: Pervasiveness (Complexity and Dispersion), Harmony, and Valence.

Results from Study 2 show that the response of other (as measured by the RO component) shows amenability to change. Patients in this study began to experience other in significantly more complex ways over the course of psychotherapy. An increase in the range of scoring categories, indicating CCRT content aside from the central theme, was not found (as measured by Dispersion). Furthermore, these interpersonal interactions became significantly more Harmonious. However, despite interpersonal patterns becoming more complex and Harmonious regarding the RO, this was not associated with change in psychological symptom improvement. The RO also improved to a more positive pattern (as measured by Valence). Hence, the experience of other appeared to interfere less with patients' quest for wish actualization and mastery over psychotherapy. The improvement in RO Valence significantly correlated with improved global functioning, depression, and anxiety levels.

In general, the response of self component for all patients remained significantly rigid over the course of psychotherapy. This aspect of the relationship dyad did not become significantly more complex nor help the exploration of varying relationship themes. Despite this relative consistency, the response of self showed an increase in Harmonious interactions over time. Relationships showed an increased positive Valence, helping to reduce interference with wish actualization. A high number of outcome measures significantly linked with these changes. In particular, when relationship patterns were more Harmonious, an improvement in levels of depression, psychological symptoms, and global functioning

correlated. Positive Valence patterns were significantly correlated with improved anxiety scores. In light of this improvement, it may be considered that improved Pervasiveness (Complexity or Dispersion) is not necessary to relieve relationship conflict and related suffering in regards to the response of self.

The wish did not significantly contribute toward changes in relationship patterns or psychological symptom relief. Patients did not report greater understanding of their interpersonal interactions through fostering of complex themes in each interaction, nor did they demonstrate greater Dispersion of relationship themes through a multitude of interactions. Furthermore, patient's experience of relationships did not become more Harmonious over time. Despite this non-significant result, the Harmonious categories were a common endorsement for patients across the 3 sectors of therapy. Since the W remained unchanged over psychotherapy, it is not surprising to observe a lack of significant relationship between the wish and outcome measures. The three indices of change used in Study 2 were not useful in demonstrating processes of this wish, and its role in interpersonal conflict resolution and psychological symptom recovery.

The adoption of Luborsky et al. (1994)'s principles may shed light on this area. Two cases with poor wish Complexity appeared to manifest less conscious wish components. For one case where the less conscious component was expressed, resolved, and maintained greater outcomes were obtained. Conversely with the second case, the central CCRT pattern recurred, the emerging less conscious wish was not sustained in the verbalisations, and poorer outcomes were noted. However, the degree to which these process-outcome links are associated is yet to be examined empirically.

In conclusion, the significant association between the CCRT and outcome highlights the importance of resolution of relationship conflicts for psychological well-being. In particular, the response of self appears to positively influence the process of conflict resolution, and is associated with improved psychological functioning. It appears that the increasingly Harmonious and positive nature of the RS may offset its apparent rigid nature. It also has a strong link with improvement in depression and anxiety levels, psychological symptoms, and improved functioning. Equally as potent, the response of other component appears to make important contributions toward conflict resolution. Patients in this study appeared to express more complex relationship patterns, Harmonious interactions, and positive Valence patterns. Hence, the RO was the only component which appeared to significantly improve over time as measured by all indices of change. Although all changes in components of relationship patterns appears to be significantly associated with improved psychological functioning, relationship processes appear to occur independent of abstinence status long after psychotherapy has been completed.

The wish demonstrated a highly refractory nature with a marked rigidity, and no improvement in Harmony. However, most CCRTs for patients were rated to be moderately Harmonious across therapy. One could understand the rigid nature of the wish with more confidence after considering these findings with reference to the process of the less conscious wish becoming more conscious over psychotherapy. These findings however, are yet to be empirically validated.

Chapter 4 – Discussion

Overview of Discussion

This project aimed to investigate and understand the process-outcome links of cannabis users in the psychotherapy of drug dependence. The particular processes of interest were the Core Conflictual Relationship Themes of these individuals, the trend of these themes over the course of SE psychotherapy, and its relationship with outcome. This project therefore conducted two studies in which to test these aims. Study 1, a single case design, began the investigation of the Core Conflictual Relationship Themes of an individual with Cannabis Dependence undergoing 16 sessions of SE psychotherapy. The observable trends in Study 1 supported the hypotheses, and therefore facilitated the design and implementation of Study 2 where more rigorous methods and empirical testing were applied. This chapter aims to review the results of Study 1 and Study 2 as potential support for the research model. It will consider these findings in light of recent and relevant psychoanalytic research on the Core Conflictual Relationship Theme method. Furthermore, this chapter will report on the limitations of Study 1 and 2; implications, contributions, and avenues for future research will be explored.

Summary of Results from Study 1 & 2.

Study 1 and Study 2 aimed to test the research model by investigating the extent to which relationship patterns of cannabis users undergoing psychotherapy for drug dependence are modifiable and related to outcomes. Furthermore, these studies aimed to explore the characteristics of such relationship patterns, and discrete processes among wishes, that may influence psychological outcome. Study 1 achieved the stated aims in its single case design. Michael's relationship patterns were modifiable over the course of 16

sessions of SE psychotherapy. His wishes and responses of self became less rigid and more Harmonious over time. These findings are consistent with improvements in outcome measures such as his psychological symptom profile, global functioning, depression and anxiety levels, and cannabis use. Pervasiveness-Wollongong for the response of other did not change across the 6 sectors of psychotherapy, with a very mild improvement in Harmonious interactions and a notable improvement in Valence. This is the first time all sessions from a psychotherapy case have been coded for the CCRT and explored over the 4 months of this individual's life in treatment.

Study 1 lends support to the research model. In particular, it supports the hypotheses that greater improvement and clinical change over the course of psychotherapy will be predicted by more Harmonious CCRT categories and lower CCRT Pervasiveness-Wollongong (for the wish and response of self components of relationship patterns). Support was obtained for the hypothesis that improvement and outcomes will be predicted by more positive CCRT Valence for the response of other aspect of the relationship pattern. These results were gained independent of drug use.

Study 2 accomplished its aims when investigating the research model with 24 cannabis users. Greater improvement and clinical change (as seen by improvements in levels of depression, anxiety, global functioning, but not drug use) was predicted by more Harmonious CCRT categories, more positive CCRT Valence, and lower CCRT Pervasiveness (Complexity and Dispersion) for the response of other. However, it was only the positive Valence relationship patterns that were associated with improvement in outcomes.

Patients' response of self CCRT components did not provide evidence for the hypothesis that improved Pervasiveness (Complexity and Dispersion) occurs over psychotherapy, and predicts clinical improvement. However, partial support for the model was found when the response of self showed more Harmonious CCRT categories and more positive CCRT Valence over time. A higher number of outcome measures pertaining to greater improvement and clinical change (depression, anxiety, global functioning, psychological symptoms, but not drug use) were associated with these significant changes in CCRT indices.

Investigations into the wish did not find evidence to support aspects of the research model. The hypothesis that greater improvement and clinical change will be predicted by improvement in Pervasiveness (Complexity and Dispersion) and Harmony was not supported. However, investigating the nature of the wish more closely using Luborsky et al. (1994)'s principles, may have helped us understand this aspect of the CCRT. The transition of the patient through the continuum of less conscious to more conscious awareness of their main wishes may have an association with symptom amelioration.

These results speak to the validity of some of the hypotheses put forth in this project. Furthermore, the moderate degree of support for the research model and hypotheses subsumed within it, gives credibility to the implementation of such a model to understand, test, and resolve the relationship conflicts and psychological distress expressed by those drug users seeking treatment.

Discussion of the Results in Context to Relevant Psychoanalytic Research on the CCRT

Despite many important dimensions of change to consider when measuring and understanding Core Conflictual Relationship Themes of individuals, Pervasiveness has been

previously considered with greater enthusiasm, due to the premise that rigid relationship conflicts activate psychological symptoms (Crits-Christoph & Luborsky, 1998). In fact, it is understood that changes in Pervasiveness operates as a curative factor (Crits-Christoph & Luborsky, 1998). The current project sought to measure and understand the concept of Pervasiveness by two methodologies: Dispersion and Complexity. These methodologies will be considered in turn.

A lack of significant changes occurred largely for Pervasiveness in Study 2. The lack of observed significant changes by the Dispersion sub-index for all three CCRT components (W, RO, and RS) suggests that cannabis users did not demonstrate that CCRT components, independent of those forming the central theme, became more varying over the course of psychotherapy. The lack of significance is important. Dispersion, as a measure, is probably more sensitive to Pervasiveness than previous measures because it does not just focus on the main theme. Despite this greater sensitivity, the findings reported here do not support this index. Cierpka et al. (1998)'s original published method was only one single point in time measurement of Dispersion, whereas this current study used longitudinal repeated measures over time. It is unknown if this current study had enough power to detect changes in Dispersion, as this is the first study to use this method longitudinally. Also, it is possible that 4 months of psychotherapy is insufficient to yield changes in Pervasiveness.

Nevertheless, these results are not consistent with Cierpka et al. (1998)'s findings on this new methodology. Here, the RS component was the most variable, and the W showed lowest Dispersion scores for patients with greater psychopathology (Cierpka et al., 1998). The results from Study 2 show mean Dispersion scores lower than other reports. Wilczek et al. (2000) reported mean Dispersion scores of W (.77), RO (.69), and RS (.73). Although,

Wilczek et al. (2004) found Dispersion scores commensurate with Cierpka et al. (1998)'s earlier reports, only moderate changes were found in Dispersion over psychotherapy. The change in W was significant but to a moderate degree, the RO significantly became more flexible, and the RS remained unchanged.

This non-significant result with Dispersion calculations engages the debate regarding multiplicity and singularity of relationship themes. Some researchers (Crits-Christoph et al., 1994; Connolly et al., 2000; Connolly et al., 1996; Barber et al., 2002) have written about the existence of multiple relationship patterns across differing situations, and whether they appear disparate from the patterns emerging between the patient and therapist. These have seldom been examined however. The results from the Dispersion investigations in this project support the notion purported by other researchers that some patients are restricted in their interpersonal relationships (Horowitz, 1991; Tellides et al., 2008; Koenigsberg et al., 2000; McWilliams, 2004; Meares, 2000; Beretta et al., 2007; Fried et al., 1992, 1998), and that it is the central theme that should be emphasized (Luborsky & Crits-Christoph, 1998). The results of this project may afford support to the latter. It may also support a basic tenet regarding the transference concept: that it is characterised by a single main theme.

The idea that an individual remains faithful to their wishes, needs, or intentions in context to interpersonal interactions has been noted early on (Crits-Christoph & Luborsky, 1998; Cierpka et al., 1998). With this in mind, one may consider the significant results of the Complexity sub-index with due interest. Study 1 reported significant differences among sectors of psychotherapy regarding Pervasiveness of the wish, but this was not replicated in Study 2. In fact, the wish component of the CCRT was found to remain unchanged, as it did not become more complex over the course of psychotherapy for cannabis users. This is

consistent with research reporting the relatively refractory nature of the wish despite changes in the responses components, and relative improvement in outcome (Crits-Christoph & Luborsky, 1998; Wilczek et al., 2004).

A diagnosis of Cannabis Dependence may be considered an expression of psychopathology. The unchanged wish Pervasiveness (for Complexity and Dispersion) in Study 2 therefore shows consistency with other reports showing increased psychopathology associated with increased wish Pervasiveness (Cierpka et al., 1998). It may be helpful to consider that reviewing Pervasiveness, and its sub-indices, in isolation may not tell the whole story of the processes of the wish component of the CCRT. However, even after reviewing Harmony scores for the W, we see that change did not occur significantly over the course of psychotherapy for cannabis users. This is also consistent with other reports (Parker, 2004).

The use of Luborsky et al. (1994)'s principles for less conscious CCRT components may provide a basis for understanding these wish processes. The application of the techniques central to SE dynamic psychotherapy is thought to facilitate the arrival of less conscious aspects in the awareness of the patient, in order to foster coping and mastery (Book, 1998). The illustration of the two cases, Helen and Colin, may highlight this process. The endorsement of the two principles regarding less conscious wish components (Luborsky et al., 1994) highlights a possible association: when less conscious wish components in highly Pervasiveness CCRTs for two cannabis users are acknowledged and managed through psychotherapy, improvement in psychological functioning, symptoms of distress, and cannabis occur.

It is important to consider that the shift from less conscious to more conscious CCRT components expressed by patients may not be identified by any of the indices of change (Harmony, Complexity, or Pervasiveness-Wollongong). This becomes apparent when considering that the category shift, occurring for Helen and Colin, were from one Harmonious category to another Harmonious category. Furthermore, there was no change in the number of categories endorsed, meaning that this change is not detected in the Complexity index or Pervasiveness-Wollongong formula either. This may indicate that these indices of change, and associated methods of calculation, are not suitably sensitive to measure and understand discrete changes in the wish component. The CCRT methodologies may benefit from qualitative analyses as an adjunct when attempting to understand aspects of relationships that appear to be refractory, in times where ordinary measures of change reveal too little.

Furthermore, these findings may add support for Freud (1912/1958)'s 9 Hypotheses about the transference concept: that individuals may not be entirely conscious of their interpersonal pattern. It also suggests that when the less conscious component is expressed, understood, and managed, or that aspects of the transference pattern are addressed, it may be likely to foster greater improvement and clinical change. Although this may foster interest in psychotherapists alike, it needs further empirical investigation and validation.

Disparate from the evidence of the refractory nature of the wish, the response components of the CCRT have been typically found to be less Pervasiveness and more modifiable over time (Crits-Christoph and Luborsky, 1998; Cierpka et al., 1998). This suggests that it is through these components that conflict resolution and symptom alleviation can be sought. There is contrasting evidence more recently reporting unchanged RO

components (Polterock, 1996) however, the results from the current project do not concord with these findings. The RO component significantly became more complex over psychotherapy. Cannabis users in this study appeared to become flexible in relationships when their experience of other became more complex. This appears to be a novel finding, although some early support might be found in at least one other study (Wilczek et al., 2004).

This was not the case with the RS component, which remained rigid in its CCRT categorical expression. Although this finding with the RS is not consistent with previous reports regarding Pervasiveness-Penn (Luborsky & Crits-Christoph, 1998), the increase in Harmony and positive Valence for both the RS as well as the RO, has been previously reported (Parker, 2004; Parker & Grenyer, 2007; Grenyer & Luborsky, 1998). This may support the notion that it is the non-interference aspect that drives mastery and psychological coping. Hence, considering Harmony and Valence of the response components offers more important information about how relationship patterns change for the better. The earlier writings of Freud (1912/1958) comment on transference patterns as either positive or negative, which may be viewed to support the importance of Valence of relationship patterns. Furthermore, this preliminary evidence in this project may suggest that conflict resolution hinges more on improvement in patients' experience of other relative to self.

The interpretation of these results is meaningful in context to broader CCRT themes. This research has contributed a new measure for use in CCRT research: Complexity. The significant results derived from the Complexity methodology of the response of other component in this project may suggest that utilizing the CCRT-LU aided a more sensitive measurement of relationship themes (relative to the standard categories). In addition,

changes among endorsement of the sub-dimensions of direction appeared to capture the variability of the CCRT components. This new measure for CCRT research appears useful but needs to be subjected to tests of reliability and validity before its utility can be confirmed.

The CCRT and associated vehicles of measurement have been considered as a way to legitimately re-consider transference as an active ingredient of psychotherapeutic change. The concept of transference and its ability to be resolved in therapy diverges. One view claims that transference is resolved. Gelso et al. (1997) found that transference and emotional insight significantly contributed toward both client-rated and therapist-rated outcome. In fact, the course of negative transference and overall amount of transference differentiated more successful from less successful psychotherapy cases. For those more successful psychotherapy cases, transference was noted to increase during the first part of therapy, and then decline. In comparison, transference continued to increase over the course of therapy for the less successful cases. These findings were also noted by others (Graff & Luborsky, 1977; Ekstein, 1956; Davanloo, 1980).

The other view holds that the pattern remains fairly stable with the alteration of some components (Crits-Christoph & Luborsky, 1998; Pfeffer, 1963; Schlessinger & Robbins, 1975). Hence, rather than the central maladaptive theme ceasing to be expressed, or is done so in fewer narratives, the central theme is present with altered components. Crits-Christoph and Luborsky (1998) found that although Pervasiveness-Penn improved over the course of psychotherapy, the wish was less amenable to change relative to the response components. Furthermore, even those patients that improved considerably retained some of their basic relationship components. The results from this project indicate that some CCRT components

show flexibility and modifiability over the course of psychotherapy. This may be concordant with research suggesting that it is the discrete changes among the components of the CCRT that is indicative of change, rather than the complete resolution of the transference pattern.

The indices of change in this project were correlated with outcome measures to investigate the relationship between changing relationship patterns and its association with improvement in psychological symptoms and recovery. This positive association has been reported in more than one study (Luborsky et al., 1975; Baguet et al., 1984; Albani et al., 1999; Grenyer & Luborsky, 1996; Wilczek et al., 2000). Furthermore, improvements in depression and global functioning have been significantly associated with resolution of relationship conflicts in cannabis users (Grenyer & Solowij, 2006). The lack of correlation between the wish component and measures of outcome in this project may suggest that the changes in the wish, or lack thereof, appear not to contribute toward clinical improvement. Changes in the wish appeared to produce non-significant results across measures of Pervasiveness (Complexity and Dispersion), and this lack of improvement may be due to a number of factors. For example, the characteristics of the sample or the lack of validity of the hypotheses. Hence, one may reserve conclusions about the wish, and its association with outcome, until verification of its processes can be validated.

Despite its developing Harmonious nature, it is the positive Valence of the RO that is significantly associated with improved scores on measures of depression, anxiety, and global functioning. This is consistent with previous research (Albani et al., 1999; Grenyer & Luborsky, 1998). It is more commonly noted however, that an association between CCRT components and outcome exists with the RS (Parker, 2004; Crits-Christoph & Luborsky, 1998). In this project, the Harmonious and positive RS significantly related to all outcome

measures. This study suggests that it is through the resolution of these aspects of relationship patterns that serves to contribute toward greater improvement and clinical change. It appears to be particularly important for the response of self aspect of relationship patterns to become more Harmonious and positive, rather than less pervasive, for an association to occur.

The total group of cannabis users were mostly abstinent by the end of therapy, 4 months later. However, only half maintained this progress after 12 months. This result is similar to findings in other studies where varying approaches (vouchers, Cognitive-Behavioural interventions, and group discussion) were helpful during the treatment phase, but approximately half of participants relapsed by 12 months follow-up (The Marijuana Treatment Project Research Group, 2004; Stephens et al., 1994; Budney et al., 2006). Since there were no differences between the good outcome and poor outcome groups in all indices of change in the current project, and the index changes did not correlate with abstinence status, the changes in relationship patterns over therapy appear not to predict whether cannabis users will continue use or not. The processes of change in predicting abstinence status in the long term are therefore unknown. However, some hints were obtained in the analyses of the single cases, particularly the poor outcome case of Colin and his disavowal of a potentially helpful wish component. One way to investigate this further would be to score the CCRT from Relationship Anecdotes Paradigm (RAP: Luborsky, 1998e) interviews at the 12 month follow up interview, in order to understand the nature of their conflicts, and any possible association between abstinence status. One may argue however, that relationship conflicts were the central focus of the SE dynamic therapy protocol, without a direct psychotherapeutic focus on cannabis cessation.

One motivating factor for patients to seek psychotherapy is the experience of overwhelming psychological symptoms. Many psychotherapists and patients express goals of psychotherapy to be the resolution of these symptoms (Grenyer & Luborsky, 1996). Hence, the positive correlation between processes of change and greater psychological improvement and recovery in this project provides key factors to the achievement of psychotherapeutic goals and psychological health and well-being. It appears however, that relationship and psychological health can be obtained in a co-occurring manner, but that cannabis abstinence is not fundamental to this process.

Limitations of the Current Project

The results and conclusions drawn from the two studies in this project should be considered in context to several limiting factors. Firstly, a small sample size may have contributed to small changes, lack of significant results with some indices of change, or lack of association between indices and outcome measures. The number of participants drawn from the data set was chosen based on sample sizes in studies of similar scope. For example, Parker and Grenyer (2007) utilized a sample size of 17 patients in order to examine CCRT related methodologies. Although the sample size in the current project exceeds this study, the mean number of sessions per patient in which to derive the data were relatively low. It is believed, however, that since the mean number of REs derived from these sessions was reasonably close to Luborsky and Chris-Christoph (1998)'s recommendations regarding the number of REs in which to obtain a reliable CCRT, this may justify the choice in the number of sessions per patient. However, this cannot be unnoticed and should be considered when interpreting the results.

Secondly, both Study 1 and Study 2 used data from outcome measures (SCL-90-R, GAF, BAI, BDI, and ratings of drug use) that was taken at the initial and the final psychotherapy sessions for the cannabis users. Extra data was supposed to be taken for the BDI and BAI outcome measures only, on a session-by-session basis, as part of the treatment project. However, this did not always occur. In fact, there was very little data recorded between the initial and final sessions of psychotherapy for all 24 patients. The high level of missing sessional data for each of the 24 cases obtained over the course of psychotherapy prevented meaningful statistical analyses as an extension to the work done here. This prevented the investigation of index changes between sectors and their association with outcome measures. This limits the conclusions drawn regarding the mechanisms of change and their relationship with outcome in this project to pre and post analyses.

Thirdly, although significant results were obtained for each index of change, the variables appeared to explain a low to moderate percentage of the variance. In addition, each significant change appeared to yield small effect sizes (Cohen, 1988). The use of the Kruskal-Wallis and Mann-Whitney U non-parametric tests in Study 1 may have inflated the Chi-square values. It was hoped that this would be offset with the use of an adjusted alpha level of .01.

The fourth source of concern is the implementation of methodology in which to calculate indices of change. Although the retention of the familiar three aspects of the CCRT (W, RO, and RS) for analysis supported statistical power and helped to avoid violation of statistical assumptions, some CCRT-LU components of sub- dimensions were therefore lost. This may have misrepresented the performance of the measure as well as the central relationship patterns for each case. Although a new formula to calculate Complexity

was used to help capture the discrete changes among category endorsement of the CCRT-LU, this method has not yet been tested for validity and reliability. Thus, it remains a question as to whether this method captures the true nature of Pervasiveness of relationship patterns.

Finally, an exploratory design was implemented with the investigation of the wish in Study 2. However, the results should be interpreted with due caution, given that Luborsky et al. (1994)'s theory and methodology regarding less conscious CCRT components has not yet been tested for reliability of validity.

Implications, Contributions, and Future Research

The findings from this project may lend a moderate degree of confidence in considering interpersonal effectiveness as an appropriate drug-treatment focus. The implications of Study 1 and 2 relate to clinical and research contexts. A therapeutic approach may adopt a relationship focus with specific key targets: The expression, understanding, and management of less conscious wish components; the use of the response of other as the opportunity to increase interpersonal variability; and access to improved psychological symptom recovery and mastery via the responses of self.

Treatment targets may be adjusted in light of the following implications. Firstly, expect a central theme, rather than multiple themes, to be of greater importance. Second, expect that aspects, rather than the entire transference pattern, are likely to be modifiable. Further, the response of self and other components are likely to be more amenable to change, rather than the wish. Third, Harmonious and positive Valence components (especially responses of self) are likely to foster greater improvement and clinical change. Finally, relationship and psychological recovery is likely to occur independent of cannabis

abstinence. Thus, resolution of relationship patterns appears not to transparently facilitate maintenance of cannabis abstinence long-term. Validation of the CCRT and CCRT-LU as a method to score and capture these processes supports future use of these tools in research context, and broadens the scope of this measurement to at least three useful indices of change: Pervasiveness, Harmony, and Valence. This research has also broadened measurement of Pervasiveness with a new measure for use in CCRT research: Complexity.

Psychodynamic therapy places great emphasis on the interpersonal experiences expressed by patients. Indeed, it is considered that maladaptive aspects of personality and self concept are forged in the context of relationships (Shedler, 2010). Furthermore, with a focus on the therapeutic relationship, a significant goal is greater flexibility in interpersonal relationships, and a greater capacity to meet interpersonal needs (Shedler, 2010). Thus, the results of the current project have contributed toward the general body of psychoanalytic research and practice. At minimum, it may help to quell the long held erroneous perception that psychodynamic concepts lack empirical support (Shedler, 2010). It is hoped however, that the growing body of evidence for the CCRT and the basic tenets of psychoanalytic theory that it upholds, will begin to be understood and more frequently practiced as a useful conceptual and clinical tool by varying psychotherapists for populations in need of treatment.

Furthermore, this project has contributed toward the field of psychotherapy process research. It has long been noted that research on the process of therapy is crucial for understanding the mechanisms of change within therapy, for determining what leads to outcomes, and for the development of sophisticated models of therapy (Kiesler, 1973). Indeed, Stiles et al. (2006) recently commented that the current focus on randomized

clinical trials as the sole arbiter of evidence-based treatment has been overly simplistic. The utilization of the CCRT as a mature measure of psychotherapeutic process, and the development of the research model as a theoretical model of change, has been a sound method in which to understand process-outcome links in the study of drug dependence. An empirically sound and clinically appropriate treatment approach may not be bestowed upon more grateful recipients than those individuals suffering from a high prevalence disorder, such as drug dependence. Although these individuals may legitimately hope for recovery of relationship conflict and psychological distress and functioning, it does not appear to have a transparent effect on changing abstinence status in the long term.

The current project may be considered to play a role in our broader understanding of psychology. A field concerned with wellbeing and optimal functioning, recent psychology has emphasized the importance of broadening the focus beyond suffering and its alleviation (Duckworth, Steen, & Seligman, 2005). For example, the facilitation of personal effectiveness in an individual is important however, little is known about why this is so difficult to achieve, or what facilitates optimism (Seligman, 1991). The interpersonal processes of change, and their association with greater psychological functioning, in this project contributes to these contemporary views in psychology and may facilitate our quest for optimal functioning. The importance of obtaining optimal psychological functioning and personal effectiveness speaks to recent research investigating the role of attachment systems in addictions (Comminos & Grenyer, 2007). Future research looking into CCRT measures and attachment may also provide pathways to optimal functioning in drug users.

Despite these important implications and contributions toward the field of psychology, the limitations of this project should heed some caution in interpretation of the

findings. With future research, one may consider these findings with more confidence. Future research may be better able to confidently report on the significance of changes in Core Conflictual Relationship Themes of cannabis users and its relationship with outcome, should the described limitations be addressed. Furthermore, a thorough look into the processes and influence of less conscious CCRT wish components re-engages the investigation of an interesting avenue of psychoanalytic research.

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