THE ROLE OF AMBIVALENCE AND COGNITIVE DISSONANCE IN MOTIVATIONAL INTERVIEWING FOR ALCOHOL PROBLEMS

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Submitted in accordance with the requirements for the degree of
Doctor of Clinical Psychology (D. Clin. Psychol.)

The University of Leeds
Academic Unit of Psychiatry and Behavioural Sciences
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December 2009

The candidate confirms that the work submitted is his/her own and that appropriate credit has been given where reference has been made to the work of others

ACKNOWLEDGEMENTS

I would first like to thank all the primary investigators of the UKATT study for providing me with permission to complete a secondary analysis of a sub section of their data. I would also like to thank all the participants of the original trial for consenting for the information they provided to be utilised in future research. I am extremely grateful for the support, advice, encouragement and patience of my supervisors, Dr. Gary Latchford, Dr. Hillary Becker and Gillian Tober.

I would particularly like to express immense gratitude to my Aunt and friend Patricia Hackett, as if were not for her excellent secretarial skills, warm heart, and deep consideration of others, I do not believe this project's completion would have been nearly as achievable. I am also extremely thankful to my friend Suzanne Clarke for all her help and support, Sarah Richards for always cheering me up and making me laugh, my mother Jean for being the amazing person she is, and my husband Neilan for never doubting me.

ABSTRACT

Motivational Interviewing (MI) has been shown to be an effective treatment for substance abuse and other lifestyle and/or behavioural problems. However, mechanisms of change remain a topic of speculation. It has been hypothesised that MI works by eliciting and resolving a client's ambivalence, thereby enhancing their motivation and commitment to change. Research has supported the theory that enhancing commitment is an integral element of MI, however little is known about the role ambivalence plays in producing change. The aim of this project was to investigate this role, and the possible role of other relevant models from social psychology such as cognitive dissonance.

First, the social psychology literature relating to the process of ambivalence and dissonance was reviewed to determine whether this was adequately reflected in the literature on MI. It was found that a comprehensive, contemporary view of these processes is largely absent from the literature on MI, and that this may be potentially valuable in furthering an understanding of the mechanisms of change.

Second, a secondary analysis of data from a completed randomized controlled study (the United Kingdom Alcohol Treatment Trial - UKATT) on the effectiveness of Motivational Enhancement Therapy (MET), an adaptation of MI, was carried out. This used a thematic analysis with an a priori coding frame based upon constructs shown previously by research in social psychology to be important in ambivalence and dissonance. The aim was to explore the relevance of these constructs to understanding the processes within sessions of MI, and to determine whether either the model of ambivalence or cognitive dissonance offers an advantage in analysing the data.

Application of the a priori coding frame developed, to MET transcripts revealed variations in the expression of ambivalence and cognitive dissonance in client language. Inconsistencies both within and between the different cognitive components outlined in both theories occurred in close proximity to one another, inferring an experience of inconsistent-related discomfort within the client. The thematic analysis also enabled the identification of additional themes, relevant to both ambivalence and cognitive dissonance theories, in client language. In total fourteen themes were identified, five ambivalence and nine cognitive dissonance. Ambivalence themes were expressed on 107 occasions and cognitive dissonance on 205.

Ambivalence and cognitive dissonance theories prove to be valuable in examining and interpreting client language, providing a discrepancy-related model to enhance understanding of MI's motivational processes. It is concluded that cognitive dissonance more adequately captures the motivational processes reflected in client language; however ambivalence theory provides a more specific model, guiding clinicians and researchers delivering and investigating the elicitation and resolve of the ambivalent experience.

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CHAPTER 1: MOTIVATIONAL INTERVIEWING: EFFECTIVENESS AND THERAPEUTIC PROCESSES

Overview

This chapter critically evaluates the empirical literature on Motivational Interviewing (MI) in the context of substance abuse. It briefly outlines the various treatments for substance abuse and describes the background, style and principles of MI. A review of the research investigating the efficacy and effectiveness of MI is provided. Primarily, this chapter presents an overview of literature which has explored the active ingredients of MI. Theories from social psychology identified to enhance the understanding of MI's therapeutic processes are outlined. The chapter will conclude by identifying some of the gaps in the MI literature and defining the aims and research questions of this project.

For this review a database literature search (PsycINFO) was conducted using *motivational interviewing* as a key phrase. The MI website and online bibliography was also used to identify literature (http://www.motivationalinterview.org/library/biblio.html). Key papers were manually searched for relevant references.

Alcohol Problems and Treatment

Disorders of addiction such as alcohol abuse are one of the most prevalent psychological and behavioural disorders (Global Burden of Disease and Injury Series [GBDIS], 1996). Alcohol abuse is very common, with a global point prevalence of 1.7. and a prevalence of over 5% in North America and Europe (GBDIS, 1996). As with other domains of addiction the cause and maintenance of alcohol problems are known to be multi-factorial, influenced by physiology, behaviour and motivation (West, 2006). There are several treatments for alcohol problems which reflect the different approaches to explain addiction. Pharmacological interventions have been found effective in the maintenance of abstinence and relapse prevention as well as reducing withdrawal symptoms (Edwards, Marshall, & Cook, 2003). Many psychological interventions have also been found effective in producing abstinence or reducing alcohol intake (Carroll, 2005; Curran & Drummond, 2005) including the twelve-step programme (TSP; Nowinski, Baker & Carroll, 1992) run by self-help organisations such as alcoholics anonymous. The TSP views substance abuse as arising from an innate vulnerability. It aims to help people acknowledge the harm addiction causes and accept the lack of control this imposes on them. Cognitive behavioural treatments are frequently used, aiming to improve coping responses to stressors (Kadden *et al.*, 1992). Various other interventions involve a partner, family members or significant others in treatment, recognising the social context of such problems (Meyers & Miller, 2001). MI is a psychological treatment for addiction which has received increasing attention, both in clinical practice and research. Focusing on the motivational aspect of addiction, MI aims to enhance

commitment to change through eliciting and resolving ambivalence. MI is described below in more detail.

Motivational Interviewing

MI is a brief intervention of one to four sessions that can be delivered as a stand-alone intervention or a prelude to treatment. It has also been incorporated into other interventions such as cognitive-behavioural-therapy (e.g. Miller, 2004; Arkowitz & Westra, 2004). MI was initially conceptualised by Miller in 1983 and later developed by Miller and Rollnick (1991). It evolved from integrating Miller's own experiences of treating alcoholism and Roger's (1959) person-centred approach to therapy. MI combines the empathic, warm and genuine style advocated by Rogers with a more directive method which helps clients explore and resolve their ambivalence about changing their addictive behaviour, the primary aim being to elicit motivation to change (Miller & Rollnick, 1991; 2002).

Miller and Rollnick (2002) define MI as 'a client-centred, directive method for enhancing intrinsic motivation to change by exploring and resolving ambivalence' (p.25). They describe three fundamental components embodying MI: collaboration, evocation and autonomy. Four therapeutic principles of MI are also identified: expressing empathy, developing discrepancy, rolling with resistance and supporting self-efficacy. It is proposed that by adhering to such a style and using techniques such as open-ended questions, affirmation, reflective listening and summarising, the therapist can evoke the client's self-motivational statements or 'change talk' (CT). CT is believed to strengthen the client's commitment to change and produce positive changes in behaviour. Since its development MI has undergone various adaptations, incorporating components of other interventions. Perhaps the most widely known and used is motivational enhancement therapy (MET). MET integrates personal feedback of assessment results into the overall MI style and technique (Miller, Sovereign & Krege, 1988).

Theoretical Background

In addition to the therapeutic context, Miller's (1983) early conceptualisation of MI was informed by theories from social psychology, particularly self-efficacy (Bandura, 1977), attribution of causal control (Heider, 1958), and cognitive dissonance (Festinger, 1957). Other theories influential in aiding the development and understanding of MI include self-perception theory (Bem, 1972) and reactance theory (Brehm & Brehm, 1981). Such theories have been influential in the development of MI's principles of avoiding confrontation and developing discrepancies. They have also contributed towards MI's current focus on client language (Moyers, 2004). A further theory initially influential in aiding the development and understanding of MI is Prochaska and DiClemente's (1984) transtheoretical model. This model views behaviour change as a progression through five stages of awareness and

acknowledgement of the problem: Pre-contemplation, contemplation, preparation, action and maintenance.

In terms of processes of change, cognitive dissonance was originally one of the fundamental concepts hypothesised to explain MI's effectiveness. In his original description of cognitive dissonance, Festinger (1957) posited that when an individual's cognitions or behaviours become inconsistent, the discomfort they experience motivates them to restore this imbalance and achieve consistency. Miller (1983) theorised that by enhancing a client's discrepancy between their current behaviour and wider goals and values, MI would induce such cognitive dissonance and create discomfort. He proposed that this would motivate clients to make positive changes to their behaviour due to an inherent drive towards cognitive consistency. The importance Miller placed on the theory of cognitive dissonance has since waned however (Draycott & Dabbs, 1998). Miller & Rollnick (1991; 2002) later discarded the role of cognitive dissonance altogether, proposing that change is simply motivated by a perceived discrepancy between 'the present state of affairs and how one wants to be' (pg.38). This position therefore makes no assumption of an inherent drive towards consistency.

Draycott & Dabbs (1998) have criticised this change in stance. They argued for a continuing role for cognitive dissonance by showing how specific principles and techniques in MI may lead to increased dissonance and thence behaviour change. Perhaps surprisingly, however, the potential role of cognitive dissonance in MI has received relatively little attention since.

Efficacy/Effectiveness of MI

Table 1 provides a summary of six reviews and/or meta-analyses of outcome studies evaluating the efficacy of MI. Outcome research investigates the immediate or long-term changes which occur as the result of therapy (Hill & Lambert, 2004). They often involve randomised-controlled-trials (RCT's) whereby an 'an intervention is applied to diagnosed cases and analysed against a comparison condition to determine the degree or relative degree of beneficial change associated with treatment' (Kendall, Holmbeck & Verduin, 2004; p.17). A distinction is made between outcome research investigating the efficacy and effectiveness of treatment (Hill & Lambert, 2004). The former are completed in research settings, the latter are completed in clinic settings and are therefore more generalisable to clinical practice. The reviews summarised demonstrate that MI is an efficacious treatment for substance abuse problems including those that are alcohol related. Reductions were found in the amount of alcohol consumed, alcohol dependence, alcohol related problems and mental health. MI was found more efficacious than a no treatment control and standard care. It also demonstrated equivalent outcomes to other psychological treatment approaches, many of which were longer in duration.

Vasilaki, Hosier and Cox (2005) provide specific support for the use of MI in reducing alcohol consumption, particularly for low-dependent drinkers who voluntarily seek help. An average of 83 minutes of MI was found more efficacious than no treatment and an average of 53 minutes more efficacious than a diverse range of other treatments. Vasilaki *et al.*, (2005) note that it cannot be inferred from these findings that MI reduces alcohol problems more than any one treatment alone. Evidence also exists to support the use of MI in treating other behavioural domains such as diet/exercise, diabetes control and treatment compliance. Conclusions regarding the efficacy of MI in reducing smoking and HIV risk-taking behaviours are inconsistent (Burke, Arkowitz & Menchola, 2003; Hettema, Steele & Miller, 2005). The strongest evidence for MI remains in the treatment of substance abuse.

Various methodological limitations exist in the MI outcome literature (See Table 1). Overall, the studies are limited by the variability in the delivery of MI. Firm conclusions about which variation of MI is effective are difficult to make. Separating mode of delivery Hettema *et al.*, (2005) found MI to be efficacious as a stand-alone treatment and as an addition to other interventions. Variability also exists in the duration and number of sessions of MI delivered. Little is known about how much MI is needed to ensure it produces the desired effects. Some individual studies are also limited in their methodological quality. Specific MI procedures are not always standardized or carefully described, integrity checks are not completed and process measures not included. No empirical evaluations have been completed testing pure forms of MI as defined by Miller and Rollnick (2002). Rather studies integrate principles of MI into other treatments (Burke, Dunn, Atkins & Phelps, 2004). It is not known which aspects of MI and its adaptations are responsible for the outcomes. These limitations are highlighted through the finding of Hettema and colleagues (2005) that MI does not consistently improve outcomes. A high variability in effect sizes was found across studies and therapists. Although the meta-analyses show MI to be efficacious in the treatment of substance abuse, more effectiveness studies are needed to evaluate how MI transfers to clinical practice.

Two large multi-centre RCT's have investigated the comparative effectiveness of MI and other active interventions in treating alcohol problems (Project Match Research Group, 1997; UKATT Research Team, 2005). The aim of Project Match (1997) was to investigate the benefits of matching clients with alcohol problems to cognitive-behavioural-coping-skills-therapy (CBCST), MET, or 12-step facilitation therapy according to various client attributes. Reduction in the frequency and severity of drinking alcohol was maintained from pre-treatment to one year post-treatment for all treatments with minimal variation between them. MET was found to differentially benefit outpatient clients high in anger in comparison to the other treatments (Project Match Research Group, 1997). It was hypothesised that this finding is due to MI's non-confrontative nature. This matching effect was also evident at three-year

follow-up (Project Match Research Group, 1998). Reductions in drinking observed one-year post-treatment were sustained for all treatments over the three-year follow-up period.

Explanations for MI's Effectiveness

Research Identifying the Active Ingredients of MI

The aims of this section are to: a) critically evaluate process studies which have enhanced understanding of why MI is effective; and b) identify what aspects of the process of MI have yet to be explored. Process research is a method for empirically evaluating which features of the therapeutic process are helpful or detrimental to the client (Orlinsky, Ronnestad & Willutzki, 2004). Table 2 provides an outline of six process studies which have enhanced understanding of the active ingredients of MI. All studies are secondary analyses of previously completed research and employ an observational design. A common tool used to investigate the process of MI is the Motivational Interviewing Skills Code (MISC) 1.0 (Moyers, Martin, Catley, Harris & Ahluwalia, 2003) and the revised version (MISC 2.0; Miller, Moyers, Ernst & Amrhein, 2003). The MISC is a behavioural coding system which measures the process of therapy and was designed to capture elements of theoretical interest in the practice of MI, both in terms of the client and therapist speech and the interaction between them. The MISC 2.0 was further developed to capture more detailed aspects of client change talk (CT). CT was coined by Miller and Rollnick (2002) to describe language used by clients to indicate commitment to change. The MI process studies reviewed have explored the expression of client CT, its association with outcome, therapist training and therapist adherence to MI. The relationship between therapist behaviours, specific and non-specific to MI, and other within-session client behaviours such as engagement have also been examined. The contribution of this research to the understanding of client CT and other within-session behaviours in MI is summarised below.

PAGE NUMBERING AS IN THE ORIGINAL THESIS

Table 1: Summary of Reviews Evaluating the Efficacy of MI

Authors	Design	No. of Studies	Comparison Treatments	Behavioural Domains	Main Conclusions	Additional Comments
Noonan and Moyers (1997)	Review	11	NT, CT	Alcohol abuse Drug abuse	9 studies supported the efficacy of MI's for addictive behaviours. 2 did not.	Possible selection bias. Meta-analysis not possible
Dunn, Deroo & Rivara (2001)	Review	29	NT, CT	Substance abuse HIV risk taking behaviour Diet/exercise Smoking	Strongest evidence in the treatment of alcohol and drug abuse. Evidence in other domains is promising but not supportive of dissemination.	Possible selection bias. Meta-analysis not possible.
Burke, Arkowitz & Menchola (2003)	Meta-analysis	30	NT, P, ST, CFI, CCC,CBT, 12S,	Substance abuse Eating disorders Diet / exercise Smoking cessation HIV risk Treatment compliance	AMI > NT and P for alcohol, drug, diet and exercise problems. AMI = ST, CBT, 12S, CFI, CCC. No support in efficacy of MI in treating smoking and HIV risk behaviours. 51 % AMI improved at FU. 37% NT/ST improved at FU.	Possible impact of therapeutic allegiance
Hettema, Steele & Miller (2005)	Meta-analysis	72	NT, WLC, EI	Alcohol abuse Smoking HIV/AIDS Drug abuse Treatment compliance Gambling Intimate relationships Water purification/safety Eating disorders Diet/exercise	Significant effect of MI across many behavioural domains. Strongest support for MI efficacy in treating substance abuse. MI unsuccessful in reducing smoking. MI not consistently found to improve outcome. High variability in effect sizes across studies and therapists. Effective as a stand-alone treatment and as an addition to other interventions.	Lack of information regarding therapist training or TIMI.

Authors	Design	No. of Studies	Comparison Treatments	Behavioural Domains	Main Conclusions	Additional Comments
Rubak, Sanbaek, Lauritzen & Christensen(2005)	Systematic review Meta-analysis	72	TAG	Diabetes/asthma Smoking cessation Weight-loss/physical activity Alcohol abuse Psychiatrics/addiction	MI > TAG in approximately 80% of studies. Significant effect of MI across many behavioural domains. MI can be effective in brief encounters of only 15 minutes	All but one RCT found to have high methodological quality. Systematic review: meta-analysis only preformed on 19 studies.
Vasilaki, Hosier & Cox (2006)	Meta-analysis	22	NT, TAU, DCC, EI, SBC, CBT	Alcohol abuse	MI is an efficacious intervention in reducing alcohol consumption. ~87 mins MI > NT <3 months. ~53 mins MI > diverse range of other treatments.	Cannot be inferred that MI is more efficacious than any treatment alone. Low generalisability (heavy or low dependent drinkers).

Note – NT: no treatment; CT: comparison treatment; P: placebo; ST: standard treatment; CFI: confrontational-focused intervention; CCC: client-centred counselling; CBT: cognitive-behavioural-therapy; 12S: 12-step facilitation programme; WLC: waiting-list control; E: educational intervention; TAG: traditional advice giving; TAU: treatment as usual; DCC: directive-confrontational-counselling; SBC: Skills-based counselling.

Client CT

Amrhein *et al.*, (2003) provided evidence supporting Miller and Rollnick's (2002) hypothesis that an integral element of MI is increasing commitment to change. They used the MISC 2.0 to investigate the association between CT and outcome through video tapes of drug-abusing clients receiving one session of MI. The MISC 2.0 separates CT into commitment language and various dimensions proposed to underlie it (desire, perceived ability, readiness, reasons and need). Evaluating the expression of both commitment to status quo and change, they found the strength but not the frequency of such utterances to predict subsequent abstinence. This may explain the failure of previous research focusing on the frequency of CT to find such a relationship (Miller, Benefield & Tonigan, 1993; Miller, Yahne & Tonigan, 2003, Peterson, 1997). Commitment language was most predictive of outcome when it occurred near the end of the session. The authors concluded that the underlying dimensions of commitment language did not directly improve the prediction of treatment outcomes, yet did directly influence commitment strength.

Amrhein and colleagues (2003) investigated the association between patterns in the frequency and strength of client commitment language and specific aspects of the MI intervention. The intervention was separated into 10 six minute segments and the MI manual was used to identify what would be expected to be occurring during these segments. Commitment language was found to drop when clients were asked to generate and evaluate a change plan. It was suggested that therapists be continuously sensitive to fluctuations in commitment language. The authors propose that if commitment language drops alternative strategies should be used to restore it. Overall, the need for flexibility in the delivery of MI is emphasised. Amrhein and colleagues (2003) findings should however be interpreted with caution. Only a small frequency of utterances occurred in each of the 10 segments the MI session was separated into. Assumptions were also made that therapists were following a strictly timed MI procedure, whereby the occurrence of different aspects of the intervention neatly mapped on to the 10 segments identified.

In further research Amrhein and colleagues (2004) found strength of commitment language increased with therapist training in MI. This suggests that MI may be responsible for the change in commitment language, though adherence to MI was not assessed. Catley *et al.*, (2006) found global therapist adherence to MI and therapist behaviours consistent with MI (MICO) to be associated with more CT. In an analysis of how specific therapist behaviours predicted CT they found reflecting and reframing to be most highly related. Unexpectedly, raising concern which is inconsistent with MI (MIIN) was also found to predict CT. Other MIIN behaviours such as confrontation were not associated with what the authors coined resistant CT. Various weaknesses however exist in this study. The original MISC 1.0 (Moyers *et al.*, 2003) utilised did not allow

Table 2: Outline of Research Investigating the Active Ingredients of MI

Authors	No. of sessions	Behavioural Domain	Primary aim	Process Measures	Main conclusions	Comments
Amrhein, Miller, Yahne, Palmer & Fulcher (2003)	84	Drug abuse	Investigate the link between frequency and strength of client CT and outcome	MISC 2.0	The strength but not the frequency of CT was associated with outcome. CT was particular associated with outcome when it occurred near the end of the session.	A small frequency of utterances occurred in each decile. Assumption that therapists were following a strictly timed procedure
Amrhein, Miller, Yahne, Kupsky & Hochstein, (2004)	44	Drug abuse	Investigate the association between therapist training and CT	MISC 2.0	Frequency of CT increased with therapist training	No association with outcome
Moyers, Miller & Hendrickson (2005)	103	Drug abuse	Investigate the relationship between therapist interpersonal skills and client involvement.	MISC 1.0	Therapist interpersonal skills directly facilitated client involvement.	Potential sampling bias Uneven inter-rater reliability No association with outcome
Catley *et al.*, (2006)	86	Smoking cessation	Investigate the link between TIMI, client CT and other within-session client behaviours	MISC 1.0	Global adherence to MI and MICO therapist behaviours positively associated with increased frequency of CT and client within-session behaviours.	No association made with outcome. Strength of change talk not investigated. Limited generalisability

Authors	No. of sessions	Behavioural Domain	Primary aim	Process Measures	Main conclusions	Comments
Boardman *et al.*, (2006)	46	Smoking cessation	Examine the association between MIIN and MICO therapist behaviours and client engagement.	MISC 1.0 VPPS WAI	Adherence to MI positively associate with client in session behaviours	Therapist and client behaviours rated separately. Limited generalisabiliity No association with outcome
Moyers & Martin, (2006)	38	Alcohol abuse	Analyse if a temporal sequence between MICO and MIIN therapist behaviours and CT could be identified.	SCOPE	MICO behaviours most likely followed by CT and MIIN behaviours by counter CT	Strength of CT not investigated. Small sample size. No association with outcome.

Note – CT: Change Talk; TIMI: Therapist Integrity to Motivational Interviewing; MIIN: Therapist Behaviours Inconsistent with MI; MICO: Therapist Behaviours Consistent with MI; MISC: Motivational Interviewing Skills Code; SCOPE: Sequential Code for Observing Process Exchange; WAI: Working Alliance Inventory; VPPS: Vanderbilt Psychotherapy Process Scale.

evaluation of the influence of therapist behaviours on the strength of CT. It is the strength of CT which Amrhein and colleagues (2003) found associated with outcome. Although good inter-rater reliability was found for overall global adherence to MI, individual MIIN and MICO behaviours were less reliable. As the original trial of this study was not primarily aimed at evaluating MI specifically, more specialized training in MI was not provided. MI may therefore have been occurring at a different level of expertise than that which tends to occur in clinical practice. The study is also limited in its generalisability as it is restricted to African-Caribbeans and the treatment of smoking cessation. It does however provide preliminary evidence that better adherence to MI leads to an increased frequency of CT, a finding supported in an exploratory study by Martin and Moyers (2003).

Recognising the correlational nature of these findings, Moyers and Martin (2006) developed a sequential behavioural coding system (the sequential code for observing process exchanges; SCOPE). The SCOPE analysed whether a temporal sequence between MICO, MIIN therapist behaviours and client CT could be identified. They hypothesized that if MI theory is accurate, client CT should be more probable immediately after MICO therapist behaviour. The SCOPE was partially derived from elements of the MISC 2.0 (Miller *et al.*, 2003). Their results strengthened previous findings supporting the relationship between therapist behaviours and CT. MICO therapist behaviours were most likely followed by CT and MIIN therapist behaviours by counter CT. CT was also more likely to follow other therapist behaviours such as feedback, reflections and optimism, indicating that MICO therapist behaviours are not the only behaviours to lead to CT. Although the various categories of CT identified by the MISC 2.0 (Miller *et al.*, 2003) such as desire and commitment were also included in the SCOPE, the small sample size did not enable each category to be examined independently. The SCOPE is also limited in that it only analysed the frequency of CT and not the strength. Given Amrhien and colleagues (2003) finding that only the strength of CT is related to outcome, it cannot be assumed that such a relationship would be found with the processes examined in this study. Process-outcome links were not investigated. Moyers and Martin (2006) also highlight that although these results strengthen evidence that therapist behaviours predict CT, it remains possible that a third unnamed event which has not been examined is influencing both therapist and client behaviours.

Client Within-session Behaviours

Moyer *et al.*, (2005) assessed the influence therapist interpersonal skills had on client involvement through analysing MI delivered by therapists with varying degrees of training and competence. Using the MISC 1.0 to evaluate therapist and client behaviours they found therapist interpersonal skills (i.e. empathy, acceptance, egalitarianism, warmth, genuineness and overall MI spirit) to directly facilitate client involvement (i.e. cooperation, disclosure and engagement).

Unexpectedly, MIIN therapist behaviours were not found to decrease client involvement. Of particular interest was their finding that when MIIN therapist behaviours such as confrontation were delivered in a good interpersonal style, a positive relationship was found with client involvement. This study is however limited due to uneven inter-rater reliability in coding, resulting in some client characteristics being eliminated. Catley *et al.*, (2006) also found adherence to MI positively associated with client within-session behaviour (affect, cooperation, disclosure and engagement). Boardman *et al.*, (2005) expanded these findings by assessing client involvement through measures validated in the psychotherapy literature rather than the MISC. They examined the association between MIIN and MICO therapist behaviours, client engagement as measured by the Vanderbilt Psychotherapy Process Scale – Revised, observer version (VPPS; O'Malley, 1983) and working alliance as measured by the Working Alliance Inventory – observer version (WAI; Horvah & Greenberg, 1989). Consistent with previous research the overall style of MI (acceptance, egalitarianism, warmth, genuineness, empathy and overall adherence to MI 'spirit') was positively associated with within-session client behaviours (expression of affect, cooperation, disclosure and engagement). Congruent with Catley and colleagues' (2006) findings, confrontation was significantly negatively related to positive within-session behaviours.

In summary, there is now evidence supporting Miller and Rollnick's (2002) view on the significance of the spirit or overall style of MI in improving client collaboration and engagement and reducing resistance. Evidence also indicates that MI enhances motivation to change, as hypothesised. There are many methodological limitations in this research, however. There is often little variability in therapist adherence to MI, limiting conclusions regarding the impact of MI adherence on CT and other within-session client behaviours. The first 20 minutes of a session have commonly been used for analysis, possibly missing events occurring at different stages of therapy. The majority of studies have included AMI's, however little is known about the impact aspects such as feedback are having on process and outcome. The processes and active ingredients identified cannot be assumed to be unique to MI and may also occur in other psychological treatments. With the exception of Amrhein and colleagues (2003), no other research has matched process with outcome. In addition, where client behaviour is a focus in research, verbalisations are typically coded in terms of the extent to which they convey an intention to change and engagement with the therapist. Although many interesting relationships between client and therapist behaviours have been noted, we are arguably still far from understanding why client commitment language during an MI session is predictive of subsequent behaviour change and the processes underlying the client's decision. Such an understanding may benefit from further consideration of relevant models from social psychology.

Increasing Motivation to Change: Current Models

Miller and Rollnick (2002) hypothesise that exploring and resolving ambivalence is a critical task in enhancing motivation and a key aspect of MI. They propose that ambivalence is elicited through amplifying - from the client's perspective - a discrepancy between the present state of affairs and how one wants to be. Originally, however, Miller (1983) described this process in terms of developing a discrepancy between a person's present behaviour and their broader goals and values, creating an experience of cognitive dissonance. Miller and Rollnick (2002) subsequently rejected this as an explanatory model. In doing so they aim to avoid an inherent aspect of cognitive dissonance: that the experience of inconsistent cognitions results in a drive towards achieving cognitive consistency. The concepts of ambivalence, cognitive dissonance and the notion of a discrepancy between the actual and ideal are frequently referred to in the MI literature, however these concepts are rarely described in detail.

It is argued that if the findings obtained so far from studies of the process of MI are to be placed within an explanatory model, the decision to reject cognitive dissonance should be revisited. The next chapter offers a review of the current social psychology literature on discrepancy, ambivalence and cognitive dissonance and the extent to which this literature offers a potential model for the process of change in clients highlighted in research on MI.

CHAPTER 2: DISSONANCE AND AMBIVALENCE IN THE SOCIAL PSYCHOLOGY LITERATURE

This chapter begins by providing an overview of two discrepancy-related theories: cognitive dissonance and ambivalence. Research investigating their original conceptualization, in addition to that addressing any revision or developments is discussed. The common attributes of both theories are explored, and their differences outlined. The latter section of this chapter explores the extent to which cognitive dissonance and ambivalence theory provide a potential model for the processes of change indicated in MI research. Aspects of these two discrepancy-related theories currently captured in MI are considered. Components which appear to not yet have been incorporated into the existing understanding of MI's motivational processes are discussed in the context of how they may expand current understanding of MI's theoretical underpinnings. Consideration of ambivalence and cognitive dissonance theories, within the context of MI, results in a diagram outlining the hypothesised motivational processes occurring in effective MI (Appendix 1). It is noted that this hypothesised process is not a linear development, as the client will most likely go back and forth through the various stages.

Cognitive Dissonance

Overview of Cognitive Dissonance

Festinger (1957) postulated that when a person holds two or more cognitions inconsistent of one another they experience an uncomfortable tension. It is this tension he termed cognitive dissonance. He proposed that the tension, or cognitive dissonance, experienced has drive-like properties. These properties motivate a person to reduce this uncomfortable experience by changing one or more of their cognitions, in an attempt to make them consonant. Cognitions must be relevant to one another in order for them to be consistent or inconsistent.

Since its development cognitive dissonance has become one of the best-known and documented theories in social psychology, generating much research, revision and controversy. The use the concept cognition meant the theory was stated in very general and highly abstract terms. Cognition is any piece of knowledge a person might have, whether about behaviours, attitudes, perceptions, beliefs or feelings. They can be about oneself, another person, a group of people or things in the environment. Cognitive inconsistency can occur within or between any of these psychological representations. One may hold two attitudes inconsistent with one another, or hold an attitude inconsistent to their behaviour. One may have a strong belief but also feel emotions which contrast their belief. Festinger insisted that anyone who experiences such inconsistencies in their social life will be driven to resolve that inconsistency.

This is illustrated through Festinger's example of cognitive inconsistencies occurring in a real life setting. An article in a local newspaper reported on a group of people united in the belief that the earth was going to be annihilated by a cataclysmic flood on December 21, 1955. It was believed by this group that everyone would perish except for those who had faith in the prophecies emanating from the planet Clarion. Festinger, Rieckan and Schachter (1956, c.f., Cooper *et al.*, 2007) hypothesised that if the earth survived this cataclysmic event this group of people, he labelled the Seekers, would face a considerable amount of inconsistency. Their extremely strong belief of what was to happen to the world would be inconsistent with what did happen. This dramatic inconsistency would induce a state of cognitive dissonance, which they would be driven to reduce. One of Festinger's researchers infiltrated the group and observed the events as they unfolded. Clarion's space ship was due to appear at midnight. As the final seconds approached and no ship appeared one member informed the group that his watch said 11.55pm. All watches were reset. Another member noticed that he had a metal filling in his tooth; The Clarions had insisted that all metal objects be removed. The ship still did not appear. After 4.00am the leader of the group received her final message from the clarion: *'This little group sitting all night long has spread so much goodness and light that the God of the Universe spared the earth from destruction'*. They shared this new finding with the public. As Festinger predicted, when caught in a major inconsistency between their beliefs, behaviours and observations of reality, The Seekers were driven to find a way to restore their inconsistency.

Dissonance: Its Magnitude and Reduction

Dissonance differs from other theories of inconsistency in that it has a magnitude (Festinger, 1957). The greater the discrepancy between cognitions, the more dissonance experienced; the greater the consonance between cognitions the less tension experienced. The magnitude of dissonance is also influenced by their importance. The more important the discrepant cognitions the more cognitive dissonance experienced; the more important the consonant cognitions the less cognitive dissonance experienced. To summarise this Festinger developed a formula stipulating that the magnitude of cognitive dissonance equals the number of discrepant cognitions multiplied by their importance divided by the number of consonant cognitions multiplied by their importance. The magnitude is therefore proportional to the number of discrepant cognitions a person has, and inversely proportional to the number of cognitions that are consonant, each weighted by importance (Festinger, 1957).

The experience of dissonance can be reduced by removing inconsistent cognitions, adding new cognitions which are consonant, reducing the importance of inconsistent cognitions, or increasing the importance of consonant cognitions (Festinger, 1957). How it actually gets reduced depends on how resistant the various relevant cognitions are to change with the least resistant

cognitions being more likely to change. Harmon-Jones and Mills (1999) propose that this resistance is based on the extent to which the cognitions are consonant with other cognitions held, and the responsiveness of the cognition. When dissonance in cognitions is experienced, it is more likely to be reduced by changing ones attitude rather than ones behaviour. Schultz and Lepper (1996) state that it derives from the extent to which a change may produce a new experience of dissonance, the degree to which the cognition is anchored in reality, and how difficult it is to change those aspects of reality.

Dissonance Research

Cognitive dissonance is predominantly investigated through the observation of behaviourally induced experiments. Research tends to fall under four paradigms investigating what happens after an individual has made a decision: free choice, belief-disconfirmation, effort-justification and induced-compliance (Harmon-Jones & Mills, 1999). The latter three paradigms fall under an umbrella paradigm titled insufficient justification (Schultz & Lepper, 1996). Respectively these paradigms are concerned with the consequences of being exposed to information inconsistent with a prior belief, the effects of effort expenditure, and what happens after a person acts in ways that are discrepant with their beliefs and attitudes. Festinger's study of 'The Seekers' provides evidence of the belief-disconfirmation paradigm whereby people are exposed to information which is inconsistent with their belief. As illustrated in this study those who do not change their belief attempt to reduce their dissonance by misinterpretating, rejecting or refuting the new information they are provided with or seeking support from those who agree with one's belief.

Dissonance was also proposed to be experienced when a person engages in an activity which is effortful or unpleasant in order to reach an outcome which is desirable. Their cognition that the activity is unpleasant is inconsistent with their behaviour. It was hypothesised that in order to reduce their dissonance a person would exaggerate the desirability of the outcome, known as the effort-justification paradigm. Aronson and Mills (1959) asked women to undergo various activities to join a group which was dull and boring. Some women underwent an embarrassing activity, whereby they were asked to read aloud various words associated with sex and two vivid descriptions of sexual activity, whilst others did not. Those who underwent the embarrassing activity when initiated rated the group more favourably that those who did not.

When a person does or says something which is inconsistent with a prior attitude or belief, cognitive dissonance is aroused. The induced-compliance paradigm hypothesises that incentives to carry out such behaviour such as promises of rewards or threats of punishment reduce this dissonance, providing justifications for the behaviour through increasing cognitions consonant with it. Festinger and Carlsmith (1957) first tested this hypothesis by getting 71 men to

participate in a 1 hour group. Participants were told that two groups were being held. In one, no introduction was given and in the other, participants were told that the task was enjoyable by a participant who had supposedly completed the task. Participants were asked to substitute for this person and either given $1 or $20 to do so. When subsequently asked to evaluate the task those paid $1 rated them more enjoyable than those paid $20. In *the forbidden toy paradigm* Aronson & Carlsmith (1963) provided young children with the opportunity to play with a toy. Some were threatened with mild punishment if they were to play with an attractive toy, others with severe punishment. Later children were asked to evaluate the attractive toy. Those threatened with mild punishment evaluated the toy more highly than whose threatened with severe punishment.

Finally, in free choice experiments participants are given two objects they have stated as being similar in value to them and asked to make a choice between them. It is hypothesised that once a person makes such a decision dissonance is aroused. Even though this decision has been made one continues to hold negative cognitions towards what they have chosen and positive cognitions towards that which they have rejected. Brehm (1956) asked 225 women to: a) rate a variety of manufactured objects in desirability; b) choose between two of the objects rated; c) re-rate the desirability of the objects. Women who had a difficult decision to make changed their evaluations, rating their chosen product more positive and their rejected product less positive. This is known as spreading of alternatives. Spreading of alternatives was less for women who had an easier decision to make.

Development and Revision

The indirect nature of cognitive dissonance experiments left it open to much revision and development. For the most part these revised theories agree with Festinger's assertion that the experience of dissonance results in a motivation to change cognitions. Differences exist in what is proposed to underlie this motivation, however. Revisions include self-consistency theory (Aronson, 1968), self-affirmation theory (Steele, 1988), and new look theory (Cooper & Fazio, 1984). Self-consistency and self-affirmation theory both share the assumption that the self-concept is involved in the production and reduction of dissonance. Self-consistency theory proposes that dissonance is created when there is a discrepancy between what a person does and their view of themselves as a moral, rational and competent person. In contrast, self-affirmation theory argues against the idea that dissonance is a result of an inconsistency in cognitions but rather due to behaving in away that threatens a person's sense of morality and integrity. The new look theory also contests the idea that inconsistent cognitions are necessary in the production of dissonance. Instead the emphasis is upon the idea that dissonance is the result of feeling personally responsible for producing an aversive consequence.

Others have argued that the original theory is viable and can explain evidence generated by those who have revised it (Beavious & Joule, 1999). Research investigating the experience of dissonance as psychological discomfort has provided evidence which supports Festinger's original postulation and contests some of those theories which have followed. Festinger (1957) conceptualised cognitive dissonance in two ways: as a bodily condition similar to tension or a state of drive like hunger and as an experience of psychological discomfort. Research has primarily focused upon the former (Cooper, 2007). Investigations tended to evaluate the arousal state in two ways: manipulating experiments through the introduction of a supposedly ingested placebo or drug that would lead to relaxation, or direct physiological assessments. In a review of the literature Copper (2007) concludes that dissonance unequivocally possesses arousal properties.

Elliott and Devine (1994) provided the first systematic empirical study evaluating the psychological discomfort component of dissonance. They developed a self-report measure of affect representing an amalgam of dissonance related terms (e.g. uncomfortable, uneasy, bothered) and other non dissonance related affect items (e.g. guilty, unhappy). Participants were either asked to complete a counter-attitudinal or pro-attitudinal essay based on university tuition fees. Participants who freely consented to complete the counter-attitudinal essay reported greater discomfort than those who completed the pro-attitudinal essay and the baseline controls. Those whose dissonance was induced during the experiments reported baseline levels of discomfort immediately after changing their attitudes. Non-dissonance related affect items were not influenced by the experimental manipulation. These results provide confirmation that dissonance is actually experienced as psychological discomfort as originally postulated by Festinger, as well as demonstrating that this discomfort is alleviated on the implementation of a reduction strategy.

Research has shown that holding cognitions which are inconsistent is not necessarily sufficient to result in the experience of dissonance. It has been proposed that certain conditions need to be met in order for dissonance to be aroused. Such conditions include the freedom to choose your behaviour (Linder, Cooper & Jones, 1967), a commitment towards that behaviour (Carlsmith, Collins & Helmreich, 1966), the possibility of an aversive consequence (Nel, Helmrich & Carlson, 1969), the forseeability of such an aversive consequence (Cooper, 1968), individual differences in preference for consistency (Ciadldini *et al.*, 1994) and the awareness of cognitions (Zanna, Lepper & Abelson, 1973).

The Impact of the Self in the Experience of Dissonance.

In Festinger's original proposition he argued that cognitive dissonance could occur when a person experiences inconsistencies about oneself. Research rarely investigated the impact of the self in the experience of dissonance, however. Cooper (2007) provides a review of three revised dissonance theories which illustrate the involvement of the self in the experience of

cognitive dissonance. Steele's (1988) self-affirmation theory, argues cognitive dissonance occurs when a person's self-system is threatened. When a person's behaviour contradicts their view of themselves as a good and moral person, dissonance is experienced. For example, if a person drinks alcohol and hits their partner, yet views themselves as a good and moral person, dissonance may be experienced. Steele's theory proposes that in order to protect their self system a person may distort or add cognitions about themselves. The person who hit their partner might therefore argue that the drink was responsible for the behaviour, or that they were provoked. Steele also argued that threats to the self system can be repaired through a variety of ways unrelated to the behaviour at hand. The goal therefore is not specifically about rectifying the behaviour, but can be about affirming global integrity. Importantly, unlike Festinger's original theory, Steele proposes that inconsistent cognitions are not necessary in the production of dissonance.

Aronson's self- consistency theory (1968) similarly argues for a central role for a person's self concept. This theory views a person as generally having a high self esteem and that discomfort results when anything threatens this, producing motivation to decrease this inconsistency. Unlike Steele's theory, Aronson places emphasis on dissonance occurring when a person acts in a way which is different to what they expect of themselves. Self-consistency theory sees inconsistency as an important part of the dissonance experience.

Cooper (2007) has gone further in combining their new look theory with theories of the self to develop a self-standard model of cognitive dissonance. They argue that there are two major categories of standards a person uses to appraise the consequences of their behaviour; normative and personal, with normative judgements based on the perception of what the majority of people in a culture would see to be normal, and personal upon characteristics unique to the individual and the judgements they make when considering their own values. They argue that if a person uses personal standards to judge their behaviour they will experience idiographic dissonance, and as is true in other theories the magnitude of the dissonance experienced will be affected by what they think about themselves. In contrast, if a person uses a normative judgement individual differences in self esteem are not relevant, rather, dissonance occurs because the consequence of the behaviour is judged as being aversive or negative. They refer to this as nomothetic dissonance whereby self esteem plays no role. They argue that the standard used to judge behaviour is determined by the accessibility of this standard, such as cultural norms or unique personal characteristics. There is great individual variation.

Awareness of Cognitions

Festinger (1957) proposed that a way to reduce dissonance is to forget the importance of the cognitions relevant to the dissonance experienced. It is also argued that stopping thinking, a form of distraction, may be a commonly used strategy for restoring cognitive consistency (Hardyk

and Kardush, 1968). Zanna *et al.*, (1973) used a variation of the forbidden toy paradigm to investigate the influence awareness of inconsistent cognitions can have on the dissonance process. An awareness condition was added whereby following the threat manipulation a sticker with an X on it was placed on the side of the forbidden toy. The children were told that the sticker was there to remind them of the consequences which would ensue if they were to play with the forbidden toy. A janitor then entered the room and incidentally asked the children why they were not playing with the forbidden toy. In the high-accessibility condition the janitor called even more attention to the toy by saying 'what is this toy doing over here on the table?' and 'how come this toy has a sticker on it?' Children in the high-accessibility mild threat condition decreased their evaluation of the forbidden toy more than children in the other conditions. Zanna *et al.*, (1973) concluded that the toy derogation in this group occurred because the increased accessibility of their inconsistent cognitions led to a more intense experience of psychological discomfort, and a greater motivation to achieve cognitive consistency. This provides support for the idea that the simultaneous awareness of cognitive inconsistencies moderates the experience of dissonance.

McGregor *et al.*, (1999) suggest the simultaneous awareness of cognitions can be used to explain conclusions made by revisionists of the original theory of dissonance. In terms of Copper and Fazio's (1984) New Look theory, they argue that the perception that one has caused an aversive consequence, such as doing harm to an audience who do not deserve it, is likely a relatively new and unexpected realisation for most people. This may lead to an increase in attributional activity which could result in their behaviour and the inconsistent cognitions related to the behaviour becoming hyper-accessible. They argue that the guilt associated with such behaviour may motivate a person to attempt the suppression of its awareness, resulting in hypo-accessibility. Similarly, they claim that in self-affirmation theory behaviour which contrasts that which has been deemed acceptable or moral is more likely to remain accessible due to heightened attributional activity and self reference.

Research using the dissonance paradigm suggests that the simultaneous awareness of inconsistent cognitions plays an important role in the process. Conclusions must however be tentative given the scarce amount of literature and methodological limitations generally inherent in dissonance research. For example, the study by Zanna *et al.*, (1973) is limited in that it experimentally manipulates the accessibility of cognitions and infers the experience of psychological discomfort, rather than directly measuring their existence. McGregor *et al.*, (1999) highlight how the ambivalence paradigm combined with Basilli's (1996) technique for measuring the simultaneous accessibility of attitude components provides an excellent opportunity to overcome such methodological controversies, whilst also providing a fresh perspective that organises and extends dissonance theory.

Ambivalence

The concept of ambivalence was first originated by Scott in 1966, and gained a resurgence of interest in the 1990's. In a review of various definitions of ambivalence, Connor & Sparks (2002) conclude that commonly held themes include *the simultaneous existence of positive and negative evaluations of an attitude object*. Like cognitive dissonance, an essential component of ambivalence is the idea that people hold evaluations which are inconsistent of one another. Supporting the conclusion of Zanna *et al.*, (1973) that the simultaneous awareness of inconsistent cognitions moderates the experience of dissonance, the simultaneous accessibility of evaluations has been argued to be key in the experience of ambivalence. Similar to cognitive dissonance, the experience of ambivalence is described as an unpleasant feeling of discomfort or conflict. The concept of ambivalence focuses on attitudes rather than the broad range of psychological representations encompassed in Festinger's use of the term 'cognition'. Traditionally research has conceptualised attitudes as either positive or negative evaluations of objects (see Eagly and Chaiken, 1993). More recent research into the definitions of attitudes have found that attitudes are not always polarised and that it is possible to hold both positive and negative evaluations towards the same attitude object simultaneously. This interest in the concept of ambivalence can therefore be partially attributed to new research on attitudes. Attitudes have been identified to encompass evaluations of other people, places, products, issues, ideas, activities and objects. People can therefore hold inconsistent evaluations or be ambivalent towards any of these attitude objects. An attitude object has been identified as behaviours, targets, events or states of affairs, and again one may feel ambivalent towards any of these attitude objects. In the ambivalence literature the term attitudes also encompasses other concepts such as thoughts, beliefs and feelings.

Measuring Ambivalence

Controversy exists regarding the best way to measure ambivalence (Connor & Sparks, 2002; Connor & Armitage, in press). Connor and Armitage (in press) identify two broad approaches which are most commonly adopted in research. One is to measure the discomfort or conflict experienced by an individual, or what is termed 'felt ambivalence'. Felt ambivalence tends to be measured by asking people to make meta-judgements about their own levels of discomfort about a particular issue, thereby focusing them on relevant subset of feelings and away from irrelevant influences. For example, Priester and Petty (1996) asked participants to rate their subjective felt ambivalence on a certain topic on an 11-point scale ranging from (0) feeling no conflict at all to (10) maximum conflict. Jamieson (1993, c.f. Connor & Sparks, 2002) measured the experience of feeling torn or conflicted using their simultaneous ambivalence scale (SIMAS) which contains four questions: two of which refer to the experience of conflict between cognitive elements (for example, I am not at all confused about abortion, I have strong thoughts about it and

I have easily made up my mind in one way), two refer to conflict between affective elements (e.g. I do not find myself feeling torn about the two sides of abortion, my feelings go in one direction only) and two cross the modality of cognition and affect (e.g. my head and heart seem to be in disagreement about the issue of abortion). The six questions are combined to form an ambivalence score. Priester and Petty's (1996) measure of ambivalence is similar to that of Elliot and Devine's (1994) cognitive dissonance thermometer, whereby people are also asked to report on their subjective feelings of discomfort or tension. Harmon-Jones and Mills (1999) have pointed out that such assessments explore ambivalence in terms of targeted dissonance around a particular attitude object, whilst in dissonance research discomfort is normally assessed on a global level (e.g. how uncomfortable do you feel right now?).

The other most commonly utilised approach involves measurements of what has been termed 'potential ambivalence'. This employs separate measures of the positive and negative thoughts, feelings and beliefs that an attitude object produces. The positive and negative reactions measured are then combined to yield a continuous measure of ambivalence. The first indirect or formula based measure was developed by Kaplan (1972) using a modified semantic differential technique. He separately assessed the positive and negative attitudes attributed to an attitude object using different measures. A formula then produced an overall measure of ambivalence. Numerous other formulae have been developed, guided by Kaplan's suggestion that such scores should escalate as the positive and negative judgements become more polarised and similar in absolute value (Connor & Armitage in press).

Measures of felt and potential ambivalence both have particular strengths and weaknesses. Although measures of felt ambivalence tap into an actual experience, it is not clear to what extent the relevant information on which such judgements are made are actually accessible to the individual. Differences may also occur in the way ambivalence is interpreted (Connor & Sparks, 2002). A further problem is the extent to which participants are able to focus on positive and negative attributes sequentially, with no interference on the judgements.

Simultaneous Accessibility

The cognitive dissonance and ambivalence paradigms both hold that the inconsistent-related discomfort is moderated by the simultaneous accessibility of contradictory cognitions. However, unlike the cognitive dissonance literature in which the salience of inconsistent cognitions is manipulated but not measured, the literature on ambivalence provides a direct way of assessing the simultaneous awareness of inconsistencies using a technique developed by Bassilli (1996) measuring the length of time it takes a person to respond to unipolar evaluation questions. The response latencies are then introduced into a formula to obtain a simultaneous accessibility score. High latencies for evaluation questions have been shown to be associated with high

potential ambivalence (Bassili, 1998), with the relationship between response latencies and potential ambivalence more pronounced for those whose contradictory evaluations are relatively high in simultaneous accessibility.

To test the hypothesis that simultaneous accessibility moderates ambivalence, Newby-Clark, Zanna and McGregor (2002), in a series of studies, examined the impact of simultaneous accessibility on the relationship between felt and potential ambivalence. The studies used the same measures of potential and felt ambivalence, following Kaplan's (1972) method of asking participants three pairs of questions (positive and negative) about each issue. Simultaneous accessibility was measured using the response latency method. Participants who reported highly conflicting evaluations indicated that they experienced more ambivalence when their evaluations came to mind quickly and equally. Newby-Clark and colleagues (2002) hypothesis that simultaneous accessibility of inconsistent evaluations would moderate the relationship between potential and felt ambivalence was confirmed across both attitude objects, and they also found that it causes the relationship to be more pronounced. Newby-Clark *et al*., also manipulated accessibility through rehearsal of expressions of an attitude, which was found to increase accessibility and to be associated with felt ambivalence.

These findings, in combination with distraction and attention research from the cognitive dissonance paradigm, illustrates the importance of simultaneous accessibility of inconsistent cognitive elements as a factor in influencing inconsistency related discomfort but is not evidence that this alone can account for dissonance effects. Both research paradigms have illustrated the multifactorial nature of such discomfort. Newby-Clark *et al.*, (2002) suggest that cognitive dissonance experiments implicitly if not explicitly render cognitions more accessible. They argue that inconsistent cognitions may typically be low in simultaneous accessibility in the real world given the psychologically aversive nature of such inconsistency.

Connor and Armitage (in press) suggest that the elicitors of ambivalence can be divided into two categories, top down and bottom up. Top down includes persistent tendencies such as value conflict or individual psychological differences. The bottom up category is concerned with environmental features such as the attitude object itself. They argue that the experience of ambivalence is influenced by exposure to different types of bottom up processes such as presentation of conflict information and exposure to different social groups prompting conflict with societal values. Support for the impact of top down processes is less promising and the idea that value conflicts can create ambivalence has not been substantiated.

Central to the theory of cognitive dissonance is the idea that inconsistency-related discomfort leads to motivation to reduce this unpleasant experience. The ambivalence and closely related attitude paradigm provide a broader understanding of ambivalence. Ambivalence has been evaluated in terms of how it affects the temporal stability and pliability of attitudes, information

processing and the relationship of attitudes to behaviour (Connor & Sparks 2002; Connor & Armitage, in press). It is proposed that high ambivalence is associated with low attitude stability and vice versa. Although this is supported by larger scale surveys on political attitudes, other research has produced mixed findings. Connor and Armitage (in press) also suggest that ambivalent attitudes are more susceptible to the influence of external communication and have provided support for this in a study that influenced attitudes to diet in a high ambivalence group.

Cognitive-affective Ambivalence

Ambivalence can occur both between (i.e. inter-component) and within (intra-component) the three components of an attitude: beliefs, thoughts and feelings. A person might hold a positive thought and a negative thought about an attitude object (intra-component ambivalence). Alternatively someone might feel positively towards an attitude object but also have a belief which is negative (inter-component ambivalence). This idea of inter and intra-component inconsistencies is also evident in cognitive dissonance theory. Dissonance related discomfort can be caused by inconsistencies between or within the components the term cognition encompasses, such as behaviours, beliefs or perceptions. Both paradigms also argue that components should have similar valence and be at least moderately positively correlated (Lavine *et al.*, 1998). This aspect of inconsistency theory has not however been examined in the dissonance literature.

Evidence has accumulated in the ambivalence literature supporting the existence of inconsistent affective and cognitive evaluations of an attitude object (Cacioppo, Gardner & Bernston, 1997; Zaller, 1992, McDonald *et al.*, 1998; Maio, 1997; Maio, 2000). Attitude research has also demonstrated that cognition and affect are distinct components of attitude and that they are highly correlated. Measures of felt and potential ambivalence have been developed which tap into both cognitive-cognitive ambivalence and cognitive-affective ambivalence. Measures of potential ambivalence ask participants to report both their thoughts and feelings towards an attitude object. Measures of felt ambivalence tend to ask participants to give their subjective view as to how conflicted they feel their thoughts and feelings are (e.g. Jamieson 1993). The majority of ambivalence research has, however, focused on inter-component ambivalence, and has not considered the impact intra-component ambivalence may have on the conclusions reached. Connor and Armitage (in press) have suggested that this may be responsible for the variation in findings across studies.

Lavine *et al.*, (1998) hypothesised that when a person experiences conflicting thoughts and feelings they tend to rely on their emotional reactions to an attitude object rather than their beliefs to determine their overall attitude and attitude relevant behaviour. In contrast, when a person's thoughts and feelings are consistent their emotional reactions and beliefs exert roughly the same effect on their attitudes and behaviour. This was coined the *Ambivalence Related Primacy of Affect*

hypothesis and was based on research suggesting that: a) affective responses may often chronologically precede cognitive responses in attitude formation; b) affective responses may be perceived more selectively-biased and more related to the self and; c) affective information may be more easily retrieved from memory than that which is cognitive.

Testing this hypothesis Lavine *et al.*, (1998) used national survey data and voting behaviour from four different election years. The interviews included items which assessed emotions engendered by the candidates (affect), beliefs about the candidate's domain relevant personal qualities (cognition), overall candidate evaluations (attitude), and reported voting behaviour. This enabled the investigation of the relative impact of feelings (e.g. pride) and beliefs (e.g. leadership) held by respondents on their overall attitudes and voting behaviour. The respondents were classified as having ambivalent affective-cognitive structures towards the given candidate, or univalent cognitive-affective structures. Strong support was provided for their hypothesis. In the ambivalent group affect significantly influenced attitude and behaviour over cognition in 18 out of 38 comparisons. In contrast cognition only significantly outweighed affect in 1 of the 38 cases. In the univalent group affect and cognition exerted very similar affects on both attitudes and behaviour.

Ambivalence, Cognitive Dissonance and MI

This chapter will now explore the extent to which current cognitive dissonance and ambivalence theories could improve understanding of the mechanisms of change in MI. It is evident from the review above that although these two literatures remain largely unintegrated, they share many common theoretical attributes. It is important that prior to considering these two discrepancy-related theories in the context of MI that an overview of the similarities and differences are provided (see Table 3). Newby-Clark *et al.*, (2002) also emphasise the overlapping nature of cognitive dissonance and ambivalence. They propose that despite their differing methodologies and foci, they are remarkably similar and share many functional roots. They suggest that together the two theories can provide a more complete picture than the two can offer separately.

Central to cognitive dissonance and ambivalence theory is the existence of conflicting cognitions which are moderated to induce an experience of psychological tension. The inconsistencies can be experienced within or between cognitions, which can be held towards a range of objects. A moderating variable proposed to induce the experience of inconsistent-related discomfort in both literatures is the simultaneous accessibility of inconsistent cognitions. Cognitive dissonance is a broader theory which encompasses a wide range of cognitions, whereas ambivalence focuses on attitudes. Although both paradigms study the consequences of inconsistent-related discomfort, their focus and conclusions differ. Cognitive dissonance argues

that once psychological tension is induced a motivation to achieve cognitive consistency is experienced. Ambivalence theory focuses on the impact this experience has upon attitudes and behaviour, concluding that the more intense the ambivalent experience, the less stable and more pliable attitudes. A principal difference between these two discrepancy-related theories is the methodology used in their examination. Although both literatures have utilised observational and self-report methodologies, cognitive dissonance predominantly consists of observational studies examining the behavioural and cognitive consequences of this experience. Ambivalence researchers have primarily utilised self-report questionnaires asking participants to either subjectively rate their ambivalence experience or provide their positive and negative evaluations towards an attitude object. Cognitive dissonance research investigating the role of the simultaneous accessibility of inconsistent cognitions in moderating inconsistent-related discomfort does not directly measure either experience. Ambivalence researchers adopt a measure which directly assesses simultaneous accessibility.

Table 3: Similarities and Differences of Cognitive Dissonance and Ambivalence

Aspect	Cognitive Dissonance	Ambivalence
Cognitive inconsistencies	Involve the experience of cognitive inconsistencies	
	Encompasses a broad range of cognitions: thoughts, feelings. beliefs, perceptions, behaviours, goals. values or indeed any piece of knowledge one may have	Encompasses a more specific range of cognitions: attitudes the components of which include thoughts. feelings and beliefs
Cognitions/evaluations held towards objects	Cognitions or evaluations can be held towards a range of objects: people, places, things, oneself, events	
	Cognitions can be held within or between objects	Evaluations are focused upon a specific attitude object
Inconsistent-related discomfort	Involve the experience of psychological affect, conflict or tension	
	Few studies measure the actual feeling of psychological discomfort. When it has been measured participants are asked to report their global experience of conflict or tension.	The direct measurement of ambivalence is a central component of its research. . In addition to differentiating between inconsistent cognitions and inconsistent related discomfort a distinction is made between felt and potential ambivalence. Measures of potential ambivalence ask participants to report their inconsistent cognitions and a formula is used to estimate the felt ambivalence experienced. In measures of felt ambivalence participants report the extent in which they feel conflict or tension due to inconsistent evaluation towards an attitude object.
Variables moderating inconsistent-related discomfort	Many variables have been found to moderate the experience of inconsistent cognitions and inconsistent related discomfort	
	Aversive consequences. foreseeability of aversive consequences, preference for consistency, simultaneous accessibility, freedom to choose your behaviour and a commitment towards that behaviour	Individual differences, such as personality style and value conflict, preference for consistency, simultaneous accessibility

Aspect	Cognitive Dissonance	Ambivalence
Simultaneous accessibility	The simultaneous accessibility or awareness of inconsistent cognitions have been found to moderate the experience of psychological discomfort associated with them.	
	Studies are observational in nature and simultaneous awareness is not directly measured.	A method has been adopted to directly measure a person's simultaneous accessibility of their inconsistent cognitions.
Consequences of inconsistent-related discomfort	The consequences of experiencing inconsistent related discomfort have been studied	
	Central to the theory of CD is the idea that once inconsistent related discomfort is induced a motivation or inherent drive to resolve this discomfort is experienced.	The impact of ambivalence on attitudes, intentions and behaviours has been investigated. In general the high ambivalence is associated with decreased stability and increased pliability of attitudes.
Research Methodology	Observational and self report research methodologies are used.	
	Research predominately consists of observational studies.	Research predominately consists of self report studies.

Cognitive Dissonance and MI

The first ever description of MI and exploration of its potential processes (Miller, 1982, c.f. Mint Bulletin, 2008; Miller 1983) proposed cognitive dissonance as a fundamental concept. Miller argued that a primary goal in MI is to elicit and magnify a dissonance experience within the client, acknowledging the various cognitions encompassed in the cognitive dissonance construct (e.g. behaviour, beliefs, attitudes and feelings). The discrepancy which can exist between behaviour and other cognitions, or present state of affairs and broader goals and values are emphasised. Miller proposed that the principles and techniques of MI can be used to magnify the dissonant state by adding new cognitions to the person's repertoire which are inconsistent with their behaviour. Congruent with the cognitive dissonance paradigm, Miller hypothesised that once inconsistencies are elicited an inherent motivational drive to achieve cognitive consistency will be experienced. Consistency can be achieved in the direction towards behaviour change or away from behaviour change. Cognitions may be modified to support behaviour change or the behaviour itself may be altered; alternatively cognitions may be modified to support status quo. The second task of the MI therapist is therefore to intervene in a way which increases the probability that behaviour change will be used to reduce cognitive dissonance, rather than the alteration of cognitive structures.

Two methods recognised in the cognitive dissonance literature for achieving cognitive consistency in the direction away from behaviour change: denial and low self-efficacy/self-esteem, are identified by Miller. A person may modify their cognitions through minimising or trivialising their problems or the need to change their behaviour. They may add cognitions to their repertoire associated with low self-efficacy such as, "I cannot give up drinking" or "I haven't got it in me to give up". Low self-esteem and self-regard can enable a person to view their self destructive behaviour as understandable and therefore of no consequence.

Miller further emphasises the importance in MI of awareness building or consciousness raising of a person's cognitions. Miller placed particular emphasis on the importance of positioning awareness weights on the end of the balance favouring change. The client is actively engaged in increasing the awareness of these cognitions, or what is referred to as self-motivational statements.

Miller and Rollnick (1991; 2002) later revised their original proposition that cognitive dissonance is fundamental to MI. Rather, they emphasise the importance of eliciting a discrepancy between a person's state of affairs and broader goals and values. Their revision is based on the hypothesis that when inconsistencies are elicited in MI the client does not in fact experience a motivational drive to achieve consistency, as predicted by cognitive dissonance. Instead, it is proposed that a discrepancy between behaviour and broader goals and values directly influences the elicitation of ambivalence towards changing behaviour. Such discrepancies influence the importance placed on changing behaviour with larger discrepancies gaining greater importance. It

is argued that when a person's behaviour conflicts deeply held values, their behaviour tends to be the cognition that changes. It is thought that as a person's discrepancy between their actual and ideal increases their ambivalence intensifies. Their ambivalent state can subsequently be resolved in the direction of change.

Draycott and Dabbs (1998) contest Miller and Rollnick's revised theory, providing an outline for how specific aspects of MI may lead to cognitive dissonance and subsequent behaviour change. For example, they highlight how expressing empathy, developing discrepancy, avoiding arguments, rolling with resistance and supporting self-efficacy can increase a client's awareness of inconsistent cognitions, inducing an experience of cognitive dissonance. They also illustrate how these principles can be used to reinforce attempts made by the client to reduce their cognitive dissonance in the direction of change, and respond to attempts made to reduce dissonance in the direction away from change. Draycott and Dabbs conclude that their success in this mapping process provides support for the usefulness of cognitive dissonance in enhancing understanding of the processes underlying MI. Insights from this theory are used to make recommendations for improving the application of MI such as using a visual record to keep cognitive inconsistency salient and in the mind.

One empirical study has tested the hypothesis regarding clients' experience of cognitive dissonance and a discrepancy between the actual and ideal as a mechanism of change in MI (McNally, Palfai & Kahler, 2005). McNally *et al.*, (2005) examined the occurrence of discrepancy-related psychological processes in an MI-based intervention for 73 heavy drinking undergraduate students. Clients' experience of a discrepancy between their actual and ideal drinking behaviour and two forms of cognitive dissonance (general affective discomfort; negative, self-focused affects) during the intervention was investigated using self report measures and associations with reduction in alcohol consumption examined. Actual-ideal and negative self-focused affect discrepancy-related processes significantly increased following the MI-based intervention. They also significantly correlated with reduction in alcohol consumption. General discomfort-related dissonance affects did not increase during the intervention or relate to outcome. The authors propose that the significance of self-focused affect and lack of association with more general affective discomfort is consistent with Elliott and Devine's (1994) suggestion that the affect experienced may be largely influenced by the self-relevance of the cognition which is threatened. This study is limited in generalisability due to participants being undergraduate students. The short follow-up period of six weeks also questions the sustainability of these findings.

Miller's original description of the role of cognitive dissonance in MI captures many aspects of dissonance theory. He acknowledges: a) the wide array of cognitions encompassed in this construct; b) the discrepancies which can occur between a person's behaviour and their other

cognitions; c) the motivational drive a person experiences to achieve cognitive consistency; d) two methods used to achieve cognitive consistency in the direction away from change (denial and low self efficacy) and; e) the importance of increasing the awareness of cognitions. Other aspects are not explicitly mentioned.

Aspects of Cognitive Dissonance not Captured in MI

The following aspects of the original dissonance paradigm, its revisions and developments, do not appear to have been described or explicitly referred to in the MI literature: a) the wide array of inter and intra-component inconsistencies experienced; b) the psychological tension inherent in the dissonance experience; c) the distinction between inconsistent cognitions and inconsistent related discomfort; d) the variables proposed to moderate the experience of psychological tension, particularly the simultaneous accessibility of cognitions; and e) the importance of the self in the dissonance experience. In addition, the MI literature has not considered how cognitive dissonance research paradigms such as belief disconfirmation could enhance the understanding of MI's motivational processes. The gap between the cognitive dissonance and MI literatures are now discussed in more detail.

Cognitive Inconsistencies

Cognitive dissonance encompasses a wide range of cognitions and combinations of inter and intra-component cognitive inconsistencies (Festinger, 1957). In addition to developing a discrepancy between a person's behaviour and their other cognitions or between their actual and ideal, as emphasised by Miller and Rollnick, MI may enable a person to become aware of other types of intra-component (e.g. inconsistent behaviour, inconsistent thoughts) and inter-component (e.g. inconsistent thoughts and feelings) cognitive inconsistencies. It may be that the elicitations of these alternative discrepancies also underlie the motivational processes of MI, as according to cognitive dissonance literature, they all have the potential to result in inconsistent-related discomfort and a motivation to achieve consistency.

Inconsistent-related Discomfort

Central to cognitive dissonance is the experience of psychological tension or inconsistent-related discomfort (Elliott & Devine, 1994). The MI literature does not appear to explicitly refer to this experience of negative affect, nor distinguish between the experience of conflicting cognitions and inconsistent-related discomfort. Research investigating the variables moderating this experience (Cooper, 2007) could be utilised to inform how MI's principles and techniques can be used to induce cognitive dissonance discomfort. Inadvertently, MI endeavours to meet two conditions which are deemed necessary in the social psychology literature to induce inconsistent-

related discomfort: freedom to choose behaviour (Linder *et al.*, 1967) and the forseeability of aversive consequences (Cooper, 1968). MI's style, principles and techniques are used to provide a space whereby the client can be helped to make a decision about what they want to do about their behaviour. Freedom to choose is emphasised throughout the treatment. Clients are also actively engaged in becoming more aware of the negative and aversive consequences of their behaviour. These motivational processes are not aligned to, or discussed in context of cognitive dissonance, however. The dissonance formula developed by Festinger (1957) may also provide insight into how MI can elicit inconsistent-related discomfort. The clinician should not only introduce new cognitions which are discrepant from one another into the client's repertoire, but also increase the importance of the discrepant cognitions.

An important variable shown to moderate the experience of inconsistent-related discomfort is the simultaneous accessibility of inconsistent cognitions. Although Miller (1983) identifies the need to increase the awareness of cognitions, he limits his focus to those favouring change. A fundamental aspect involved in eliciting cognitive dissonance may be increasing the simultaneous accessibility of a person's inconsistent cognitions associated with their target behaviour.

Consideration of the distinction between inconsistent-related discomfort raises the following questions which could aid our understanding of the active ingredients involved in MI:

- Do clients attending MI experience inconsistent-related discomfort?
- Is the experience of inconsistent-related discomfort important in the therapeutic processes of MI?
- If so, what variables could MI moderate to elicit and magnify this experience?
- At what stage of MI treatment is this experience most likely to occur?

Miller and Rollnick's (2002) revised hypothesis emphasizing the importance of developing a discrepancy between a person's actual and ideal rather than cognitive dissonance, not only avoids an inherent drive to achieve cognitive consistency, but infers that a person is merely experiencing a discrepancy rather than inconsistent-related discomfort. This indicates Miller and Rollnick may be at risk of having 'thrown the baby out with the bath water' when they dismissed cognitive dissonance as an importance process in MI.

The Importance of the Self

Cognitive dissonance (Festinger, 1957) and self-discrepancy (Higgins, 1969) theories suggest conflicting cognitions can be held towards oneself. Revisions of cognitive dissonance theory, such as self-affirmation, self-consistency and the self-standard model (Cooper, 2007), provide useful insights into how the self influences the production and reduction of the dissonance experience. Such theories could help us understand potential ways the self may be important in the process of MI. In addition to developing a person's discrepancy between their present state and

where they would like to be, and eliciting their ambivalent attitude towards their target behaviour. MI's techniques and principles may also increase the availability and awareness of inconsistencies between cognitions towards themselves, or between their behaviour and sense of self as a moral and integral person or the standards they set for themselves. The clinician can produce and magnify a dissonant state by asking questions about, listening to, reflecting upon and summarising client language, indicating importance of the self. When attempting to reduce self related dissonance in the direction of behaviour change, the clinician may note and respond to any attempt made to reduce dissonance in the direction of status quo. A person's self-integrity may be threatened when they see themselves as moral, yet get drunk and assault partners, for example. They might try to reduce their discomfort by telling themselves that they were provoked, or buy their partner flowers. The clinician could help to reverse this strategy by actively engaging the client in becoming more aware of how their behaviour contradicts their views of themselves as moral and integral people. It could be argued that the possibility of the client altering their cognitions to support behaviour change would then increase.

Impact of the Provision of New and Conflicting Cognitions

A technique commonly incorporated into MI is the feedback of various assessments the client completes regarding their target behaviour (Miller & Rollnick, 2002). The purpose of such feedback is to inform the client about ways the target behaviour negatively affects their lives. Information is gathered about such things as the extent to which they are dependant on their behaviour, the problems which have arisen due to their behaviour, and the psychological and physical effects of that behaviour. The role of the majority of MI's principles and techniques in eliciting ambivalence is to listen to, encourage the discussion of and reflect upon a person's cognitions and the inconsistencies within them. The process of feedback differs in that the clinician is providing information which may add new cognitions to the client's repertoire. The paradigm of belief disconfirmation from cognitive dissonance (Festinger, 1957) can help us understand the process which may occur when feedback is provided. Similar to the scenarios adopted in early dissonance research (Festinger *et al.*, 1956), in such situations the client is being presented with information which may be discrepant with many of their cognitions, thereby increasing the magnitude of inconsistent-related discomfort experienced. Alternatively such information regarding the negative effects of their behaviour may already, at some level, be available to a person. They may, however, have used techniques such as distraction, trivialisation or repression to minimise the accessibility of such cognitions.

The belief disconfirmation paradigm posits that when a person is provided with information inconsistent with their cognitions, and dissonance is aroused, an attempt is made to resolve it (Festinger *et al.*, 1956). When feedback is provided in MI a similar process may occur. Once a

client's inconsistent-related discomfort is increased they may attempt to resolve it by trivialising or distracting themselves from their new cognitions. For example, a person may say, "the feedback I was given was not accurate", distract themselves from thinking about the information they were given or add new cognitions, such as, "my friends drink as much as I do and they are ok". The aim of the clinician should therefore be to pay attention to and recognise the use of such methods to resolve dissonance. They endeavour to provide feedback in a way which allows clients to integrate this new information into their broader cognitions and more specific attitudes, the primary purpose being to increase language in the direction of change, and ultimately, behaviour change.

Ambivalence and MI

Hypothesised Processes

The concept of ambivalence has been integral to the development of MI and an understanding of its mechanisms of action. Unlike cognitive dissonance, however, the elicitation and resolution of ambivalence towards changing target behaviour continues to be seen as central to the process of MI. Miller and Rollnick (2002) regard ambivalence as a normal aspect of human nature, and a natural phase in the process of change. They propose that problems can persist and intensify when a person gets stuck in an ambivalent state. The aim of MI is to help people get unstuck from this ambivalent experience and enable them to move towards a decision which supports change. The metaphor of a balance or seesaw is used to illustrate ambivalence. Weights are placed on each side, whereby one side represents the perceived benefits of a particular course of action and the other represents the perceived costs. The ambivalent experience is referred to as confusing, perplexing and frustrating. The MISC 2.1 (Miller *et al.*, 2008; Amhrein *et al.*, 2003), developed to code client language indicating a move towards or away from change, is seen as being able to capture client language representing ambivalence. Ambivalence is noted to be expressed when 'change' and 'sustain' talk occurs in the same volley (e.g. "I really enjoy drinking, but I have to give it up for my kids.")

Ambivalence was recently explored in an MI seminar (Nasholm, 2007) in which MI practitioners debated the question, "what is ambivalence"? This elicited the following responses: a natural human state with different possibilities for understanding and action; a state of openness and opportunity; a capacity to see, understand and cope with ambiguity; an important stage in the change process, when a person starts and hopefully continues to explore the possibility of change. It was proposed that models of ambivalence provide maps which enable people to find their way out of complicated uncertainty, inviting them to take a step back and see themselves from an outside perspective, whereby they enter into a psychological state of self observation and self confrontation. It is argued that exploring ambivalence is a process whereby a person is helped to explore and re-evaluate themselves, situations and the possibility of change.

Leffingwell *et al.*, (2006) attempted to narrow the gap between the social psychological conceptualisations of ambivalence and the implications for the theoretical understanding of MI. Particular reference is made to cognitive-affective ambivalence. Leffingwell *et al.*, (2006) highlights how ambivalence can exist in terms of how one thinks (cognitive) and how one feels (affective) and that interplay can exist between them. This was demonstrated in a study of smokers dependent on nicotine (Trafimow & Sheeran, 1998). Consistent with findings from other domains, affective beliefs were found to be more strongly associated with overall attitudes and intentions than cognitive beliefs. Leffingwell and colleagues (2006) speculate that different types of client CT associated with cognitive and affective beliefs may vary in their relationship with behaviour change. They recommend that clinicians pay particular attention to the cognitive-affective content of CT, both towards change and status quo. They propose differentiating cognitive and affective beliefs and language and assessing their influence on commitment language and outcome.

Two empirical studies have tested the hypothesis regarding clients' experience of ambivalence as mechanism of change in MI (Armitage, Povey & Arden, 2003; Armitage & Arden, in press). Armitage and colleagues (2003; in press) evaluated the relationship between ambivalence and the stages of change defined in the transtheoretical model (TTM) (Prochaska & DiClemente, 1983). Both studies involved a cross-sectional design. Questionnaires were used to measure stage of change and ambivalence. The TTM consists of five stages of change representing different levels of motivation (pre-contemplation, contemplation, preparation, action and maintenance) with movement through these stages viewed as non-linear; individuals are thought to move forward and backwards through the stages as they decide whether or not to change their behaviour. Armitage *et al.*, (2003) found a quadratic relationship to exist between potential ambivalence and stages of change. Participants in the beginning (pre-contemplation) or end (maintenance) stages showed least attitudinal ambivalence. Participants in the middle stages (contemplation, preparation and action) were significantly more ambivalent. Expanding on this, they evaluated the relationship of potential and felt ambivalence across the stages of change. The same quadratic relationship was found with both types of ambivalence and stage of change. Least ambivalence occurred in the pre-contemplation and maintenance stages. The majority of ambivalence occurred in the preparation stage. Felt and potential ambivalence were only modestly correlated and were mostly correlated in the action and maintenance stages, consistent with the authors' hypothesis. Armitage and colleagues (2006) propose that according to principles of MI, actors and maintainers have succeeded in recognizing and dealing with ambivalence and are engaging in desired health behaviour. They are at more risk of potential relapse and are on a daily basis trying to deal with conflict, hence the close correspondence with

potential and felt ambivalence. This evidence provides support for the importance of ambivalence in promoting progression through the stages of change.

Armitage and Arden conclude that the non-linear relationship between ambivalence and the stages of change supports Miller and Rollnick's (2002) hypothesis that MI creates and amplifies a discrepancy between present behaviour and broader goals in the clients' mind, before encouraging action to resolve the ambivalence. They provide preliminary evidence to support the hypothesis that ambivalence is a key factor in the process of MI though the research did not study the process of MI itself, and is limited by sample (undergraduates) and behaviour (diet). Research is needed exploring how ambivalence actually occurs and progresses during MI to substantiate the theory that ambivalence is an active ingredient in effecting change.

The following aspects of the social psychology conceptualisation of ambivalence are clearly referred to by MI clinicians and researchers: a) the idea that a person can experience conflicting evaluations towards changing their behaviour; b) ambivalence can be elicited through increasing the awareness of these evaluations; and c) it is associated with an experience of negative affect, described as frustration.

Aspects of Ambivalence Not Captured in MI

An in-depth exploration of ambivalence research within the context of MI highlights gaps between the ambivalence and MI literatures which, if narrowed, could inform discussions regarding the definition of ambivalence. Due to the shared characteristics of ambivalence and cognitive dissonance constructs, the gaps outlined between these two theories and MI overlap. The following attributes of ambivalence theory do not appear to be depicted in MI: a) although ambivalence is associated with an experience of frustration, the psychological tension inherent in its occurrence is not overtly referred to; b) the experience of inconsistent cognitions and felt ambivalence are not distinguished from each other; c) although recognised anecdotally in many accounts of MI, for example, in clients describing a conflict between their head and heart in their attitude to drinking, a distinction between the different components of attitudes (thoughts, feelings and beliefs) and the inter and intra-component inconsistencies experienced, are not explicitly made; and d) the consequences of ambivalence identified in social psychology research are not described. The first two aspects identified overlap with the gaps between cognitive dissonance and MI and have already been discussed in the cognitive dissonance and MI section of this chapter. The latter two aspects are specific to ambivalence theory and are discussed in more detail below.

Cognitive-affective Ambivalence

As outlined by Leffingwell *et al.*, (2006) a form of ambivalence is cognitive-affective ambivalence (Lavine *et al.*, 1996), whereby a person experiences inconsistent thoughts and feelings towards a target behaviour. Although recognised anecdotally in many accounts of MI, a distinction is not explicitly made in the MI literature. A person may get much enjoyment from drinking alcohol yet recognise the destructive effect it is having on their physical body; may think of how taking cocaine enables them to spend time with their friends, however, not like the negative feelings it leaves them with the following week. Research indicates that when cognitive-affective ambivalence is experienced feelings towards an attitude object override thoughts when determining the direction in which ambivalence is resolved (Lavine *et al.*, 1996). Findings also suggest that this relationship is more pronounced when feelings towards an attitude object are positive and thoughts negative. Integration of such findings into the MI literature could enhance understanding of the role of ambivalence. An important aspect of the clinician's role may be to listen for, and make note of, the client's thoughts and feelings towards changing their target behaviour. The language the clinician uses may also be important when considering how to elicit this type of ambivalence. The effectiveness of MI could be improved by eliciting cognitive-affective ambivalence and resolving this ambivalence in the direction of change by decreasing a person's positive feelings towards their target behaviour and increasing their negative feelings, for example, "it makes me feel ashamed" or "drinking makes me feel depressed."

Consequences of Ambivalence

Research investigating the consequences of ambivalence (Connor & Armitage, in press) supports the idea that, before the clinician attempts to change a client's attitude in the positive direction of change, their attitudinal ambivalence must first be elicited. It has been found that the higher a person's ambivalence, the less stable and more pliable their attitudes. This indicates that the more intense a client's experience of ambivalence regarding changing their behaviour, the more effective the clinician will be in influencing their attitudes in the direction of change.

Summary & Conclusions

The development and ongoing investigation of cognitive dissonance and ambivalence in the social psychology literature provide insight into the experience of inconsistent cognitions and the psychological tension associated with them, how they are elicited and the consequences associated with their occurrence. Although these two discrepancy-related concepts for the most part remain un-integrated, they share many theoretical attributes. Their overlapping components, in combination with their differing research methodology and foci, enable cognitive dissonance and ambivalence theories to be used together to inform and complement one another and provide a more

complete picture of discrepancy-related processes. Cognitive dissonance and ambivalence theory have been referred to as potential motivational processes within MI; ambivalence has consistently been viewed as an integral experience, whilst cognitive dissonance has been more recently dismissed and replaced by the idea of developing a discrepancy between a person's actual and ideal. Research has not directly investigated the occurrence of ambivalence in MI, and only one study has been conducted examining cognitive dissonance and a discrepancy between a person's actual and ideal as important processes of change. Descriptions of the occurrence of these discrepancy-related concepts in MI capture many of their theoretical attributes. An in-depth consideration of the distinct qualities of each theory and their overlapping components highlight gaps between the social psychology and MI literatures. Together they provide a discrepancy-related model for understanding the motivational processes occurring in clients attending MI.

Ambivalence seems to be relevant to an understanding of the process of change engendered in MI, but it is also too early to reject cognitive dissonance as a potentially useful concept. Few studies have utilised these models in interpreting process data from MI. In particular, MI researchers have generally not referenced the recent developments in how ambivalence and cognitive dissonance have been conceptualized and measured in the social psychology literature, and it is argued that they may both have much to offer to an understanding of how motivation is influenced by MI.

Current Study

Rationale and Aims

Eliciting and resolving ambivalence is a key aim of MI. It has been suggested that it is crucial in enhancing motivation and producing behaviour change. Other constructs such as cognitive dissonance, discrepancies between the actual and the ideal, and decision-making are also referred to in the MI literature and thought to be important in the change process, though the nature of the relationship – if any – between these concepts and the process of MI remains undeveloped. A gap exists between the social psychology literature from which these constructs have arisen and the MI literature which frequently refers to them. There is little evidence at the moment to support or refute the hypothesis that they are important in the process of MI. The aims of this current study are to a) provide a more detailed conceptualisation of these constructs within the context of MI and b) explore ambivalence and its associated constructs as underlying mechanisms of change in MI through an examination of data from the United Kingdom Alcohol Treatment Trial (UKATT) (UKATT Research Team, 2001).

Research Questions

This thesis will ask the following questions:

- How are cognitive dissonance and ambivalence expressed by clients in sessions of MI?
- Does either cognitive dissonance or ambivalence, or both, more adequately capture the processes reflected in client language?

CHAPTER 3: METHOD

This chapter provides a summary of the UKATT study (UKATT Research Team, 2005), and the methods used in the current study to perform a secondary analysis of the UKATT data to investigate ambivalence and cognitive dissonance as underlying mechanisms of change in MI.

Summary of Primary Empirical Study

The UKATT study evaluated the effectiveness of two forms of treatment for alcohol problems, MET and Social Network Behavioural Therapy (SBNT). The UKATT design was a pragmatic randomised multi-centre trial. Participants were all receiving treatment for alcohol abuse at one of seven British addiction treatment centres. Exclusion criteria were age less than 16 years, illiteracy, unable to name a contact, intending to leave the area, psychosis or severe cognitive impairment, or already receiving treatment for an alcohol problem. Participants were randomly allocated to the two treatment conditions: SBNT consisted of eight 50 minute sessions over 8 – 12 weeks; MET consisted of three 50 minute sessions over 8 – 12 weeks. A process rating scale was developed (UKATT, 2008) to measure specific and non-specific aspects of MET and SBNT. Therapist's language was coded to measure the frequency and quality of various aspects incorporated in both treatments.

Therapists were trained in their allocated treatments through a course lasting three days. To achieve accreditation, the trainees had to complete the supervised treatment of one or two clients and show competence through video recordings. Therapists continued to record treatment sessions on video and to receive supervision to encourage compliance with their allocated manual.

The main patient outcome measures were: Form 90 (Miller, 1996) that summarised the number of drinks per drinking day and percentage of days absent; Leeds Dependence Questionnaire (LDQ; Raistrick *et al.*, 1994) measuring alcohol dependence; Alcohol Problems Questionnaire (APQ; Drummond, 1990) measuring alcohol related problems over the past three months; Y-glutamyl transference test, Refloftron (Manneheim, 1989) which measures liver functioning. Measures were completed pre-therapy, at 3 months and at 12 months.

742 participants took part in the study, 442 in the MET arm and 320 in the SBNT arm. 689 were interviewed at 3 months and 617 at 12 months, 442 and 393 of which were respectively treated with MET. MET and SBNT were equally effective, with reductions in alcohol consumption, dependence and problems being maintained over 12 months (UKATT Research Team, 2005). Further evaluation of their cost-effectiveness has also shown them to be equally acceptable (UKATT Research Team, 2005). Participants consented to the completion of future research utilising the information they provided in the original UKATT study (Appendix 2).

Secondary Analysis

The current study aimed to explore the expression of ambivalence and cognitive dissonance in routine MI sessions, and determine whether either model more adequately captures the processes reflected in client language.

Design

This study was a secondary, qualitative analysis of data collected in the MET arm of the UKATT trial.

Sample

An opportunistic sample of 10 participants from the MET arm of the trial were selected.

Procedure

Consent to access video recordings of treatment sessions in addition to demographic and process data from the UKATT trial, were obtained from the primary investigators of UKATT study (see Appendix 3). Ethical committee (Appendix 4) and research and development approval (Appendix 5) was obtained. Transcripts of one videotaped session for each of the participants were obtained and subjected to analysis by the researcher. It was decided to focus on the initial session for each participant. The MET manual developed for the UKATT study instructs the therapist to focus on different tasks during each of the three sessions and it is reasonable to assume that differences may exist in the amount and way ambivalence is expressed as the intervention progresses. Session one was chosen for the analysis as the main aim during this first session was to elicit ambivalence, and an initial scrutiny of videotaped sessions indicated that client expressions of ambivalence appeared to occur more in the this session than the second and third.

Method of Analysis

(Russell) 1989 emphasises the key role of language plays in our world and therefore, instinctively, the delivery, and potentially, the effectiveness of "talk therapy". He proposes our knowledge of individual position in society is seriously incomplete unless we understand how language is utilised in significant social interaction and habitual constructions of self and social discourses. Exchanges between therapist and client occur primarily through the medium of language. Clinic material primarily consists of information regarding how clients construe themselves to the therapist through language. Russell highlighted the integral, theoretical relationship between psychotherapies defining concept and key language function and proposes the use of language as a method for investigating the process of therapy is ultimately warranted.

The qualitative method used in this study was thematic analysis. Braun and Clarke (2006) define thematic analysis as "A method for identifying, analysing and reporting patterns (themes) within data." (P.79). They argue that in addition to being a foundational method used in conducting many other forms of qualitative analysis, it should be considered a method in its own right. Unlike other qualitative methodologies such as Interpretive Phenomenological Analysis (IPA; Smith & Osbourne, 2003), and Grounded Theory (Straus & Crorben, 1998), thematic analysis is independent of any particular theoretical or epistemological positions which allows for flexibility in its application. Braun and Clarke (2006), argue that this theoretical freedom enables an analysis which can encompass any epistemological position of the researcher, specific or broad research questions, and provides a detailed yet complex account of the data. Given this flexibility of use, they recommend a clear outline of the researcher's methodology, theoretical and epistemological assumptions must be provided.

The thematic analysis in this study took the following form:

- It was theory led, guided by two theories of inconsistent –related discomfort: ambivalence and cognitive dissonance. In theory led thematic analysis the researcher begins with hypotheses based on theory of what may occur in the data, subsequently formulating signals or indicators, for evidence that may support this theory (Boyatzis 1998).
- A semantic approach was adopted whereby the explicit or surface level meaning of the data was used to identify themes.
- The cognitive dissonance and ambivalence literature was also used to guide the next, interpretive level of analysis. This aimed to infer the broader meanings and implications of the themes identified.
- An essentialist/realist approach was used whereby motivation, experience and meaning are theorised in a straight forward way.
- Themes were collated from the analysis of client language. Clinician language was also included when a broader context was required (as recommended by Braun and Clarke, 2006).
- The size of meaning units analysed were not predetermined but led by the data; they varied in size ranging from a single client utterance to a passage in the data set.

Theoretical Background to the Analysis

Ambivalence was defined as the simultaneous accessibility of inconsistent attitudes towards an attitude object. Thoughts, or what is referred to as cognitions, and feelings are two distinct components of attitudes. The elicitation of client's ambivalence towards a target behaviour is proposed to be key in the process of MI. Inter and intra-component ambivalence would therefore be expected to be expressed by the client during treatment (see Figure 1). Ambivalence can occur

within or between these components: *cognitive - cognitive ambivalence, affective - affective ambivalence* and *cognitive - affective ambivalence.*

Cognitive Dissonance is also caused by the simultaneous accessibility of inconsistent cognitions. The term cognition is used to refer to a broad range of knowledge a person may hold. This knowledge can be held within or between various objects. In addition to attitudes the main cognitions MI focuses upon are clients' target behaviour, cognitions regarding their present state of affairs, and their broader goals and values. A proposed active ingredient is the elicitation of discrepancies between such cognitions. Client language representing inconsistencies in such cognitions would therefore be expected to be expressed during treatment. Inter-component inconsistencies between behaviour and thoughts, and behaviour and affect, and intra-component inconsistencies within behaviour would also be expected to occur (see Figure 2).

Inconsistent cognitions were identified as simultaneous accessibility when they were expressed in close proximity to one another.

Figure 1: Forms of Ambivalence Hypothesised to be Reflected in Client Language

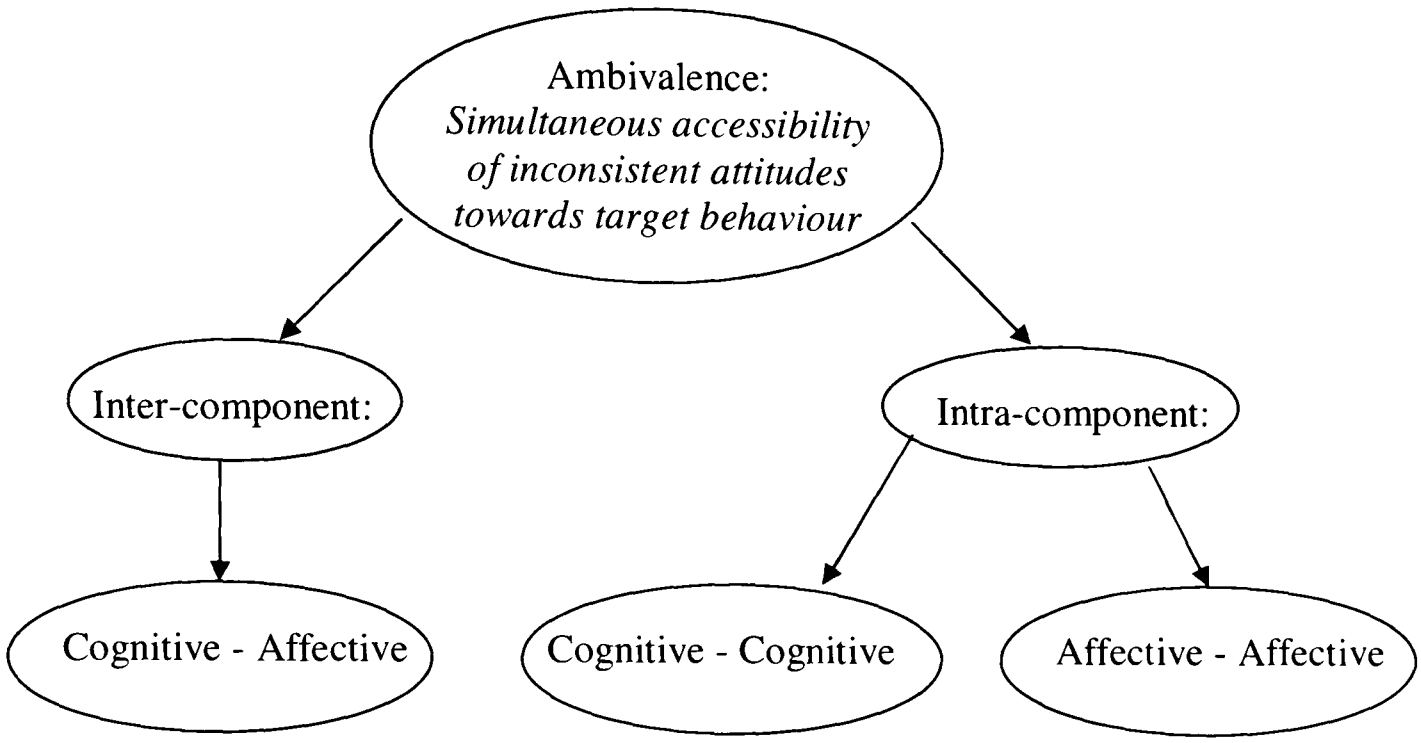
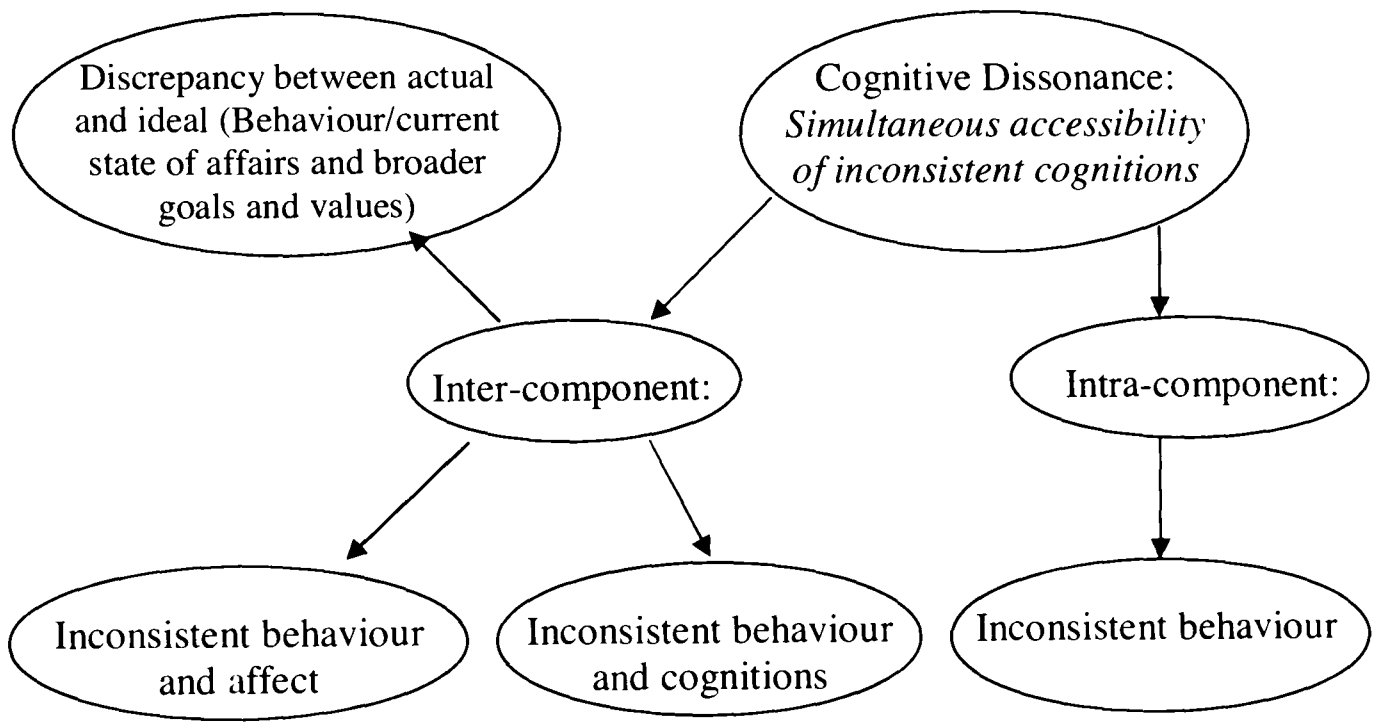


Figure 2: Forms of Cognitive Dissonance Hypothesised to be Reflected in Client Language



To further the theory-led analysis of the data, the researcher used her knowledge of ambivalence and cognitive dissonance literatures to guide the identification of any additional themes occurring in the data set. The researcher's knowledge of the MISC 2.1 (Miller *et al.*, 2008), a coding framework which captures client language indicative of a movement towards and away from behaviour change, also informed the analysis due to its capability to identify many aspects of the ambivalence construct.

The subjective nature of qualitative research methodologies such as thematic analysis means that many variables may threaten the quality of data collection, process of analysis and interpretation of results (Hayes, 1997). Variables such as the researcher's mood, style and sensory input impacts the ability to complete thematic analysis effectively. Individual cognitive style and technique, in addition to determination in gaining definitive conclusions influences the quality of themes developed and consistency in application. The researcher viewed their style as one consisting of a desire to complete the analysis effectively, within an ability to manage the ambiguity inherent in qualitative analysis. They ensured they were well rested and not pre-occupied with various concerns, in an attempt to minimize negative effects of mood and style on data analysis. During times of fatigue and frustration breaks from coding were taken.

Procedure for Analysis

The following six phases of analysis were completed. Movement occurred back and forth through these phases as required. These phases were guided by Braun and Clarke (2006) and Boyatzis (1998) on the completion of thematic analysis, particularly that which is theory-led:

1. Development of theory driven themes

The literatures on cognitive dissonance and ambivalence were initially used to identify themes expected to occur in the data. Cognitive dissonance themes include: *inconsistent behaviour; inconsistent behaviour and affect; inconsistent behaviour and thoughts; and a discrepancy between the actual and ideal*. Ambivalence themes include: *cognitive-cognitive ambivalence; affective-affective ambivalence; cognitive-affective ambivalence*.

2. Familiarisation with the data

The ten sessions of video taped MET selected for analyses were transcribed. Two sessions were transcribed by the researcher to aide the familiarisation process. The remaining sessions were transcribed by an external transcriber. All transcripts were checked back against the original video

recordings for accuracy. All ten sessions were initially read through and an initial list of ideas recorded. The compatibility of themes to the raw information in the data set was verified.

3. The generation of initial codes and themes

Transcripts were indexed by allocating numbers to each line. Interesting features of the data were coded in a systematic fashion. Boyatis (1998) refer to a code as "the most basic segment or element of raw data or information that can be assessed in a meaningful way regarding the phenomenon" (pg 63). The identification of a priori developed themes was completed. A combination of theory-led and data-driven codes were also assigned to passages in the data, forming repeated patterns and themes within the data set. These additional codes and themes were either an expansion of the a priori developed themes or separate themes. Codes and themes were identified manually using coloured highlighters indicating patterns, they were then collated together and sorted into potential themes. The relationships between various themes were considered and primary and sub-themes identified

4. Formation of main themes and sub themes

A set of candidate themes (a priori and newly observed) were identified and underwent a process of refinement. Some were discarded whilst others were collapsed into each other. Others were broken down into separate themes. A candidate thematic map was developed and the validity of the initial themes checked within the entire data set. The data set was then reread to ascertain whether the candidate map accurately reflected the meanings evident and to code any themes missed in the initial analysis. A complete thematic map was then developed.

5. Defining and naming themes

Once a satisfactory thematic map was developed the themes were further refined and defined. The essence of each theme was identified and the aspect of data captured by each theme determined. The scope and content of each theme was described in a few sentences. The title of each theme was also refined to ensure a clear sense and understanding there significance.

6: Producing the Report

Once a set of fully worked out themes and the final thematic map were developed analyses were completed and the report written up. Vivid examples and extracts of each theme were provided to illustrate to the reader the essence of the point being demonstrated. The extracts were embedded within the analytic narrative, illustrating the story of the data, and an attempt was made to go beyond description to provide an argument relating to the research question.

CHAPTER 4: RESULTS

The aim of this chapter is to present the results of the Thematic Analysis. It will outline: a) the demographics of the participants included in the study; b) the characteristics of the MI treatment delivered; and c) how the results of the thematic analysis answer the three research questions.

Participant Demographics

The majority of participants in this study were male (9/10). Only one of the ten participants was female. Ages ranged from 26 to 61 years. The mean age was 39 years (SD=11.30). 5 participants were employed; the remaining were unemployed (3) or unfit to work (2). 6 were married or co-habiting with partners; 2 were single and in a current relationship and 2 were single and not in a current relationship.

Table 4: Participant Demographics

Variable	Participants (N=10)
Age	
Mean (SD)	39.74 (11.30)
Range	26.32-61.08
Gender (N)	
Male	9
Female	1
Employment status (N)	
Employed	5
Unemployed	3
Unfit to work	2

Treatment Characteristics

Out of the ten treatments 6 were delivered in Leeds, 3 in Birmingham, 1 in Wolverhampton. 7 therapists were involved in the delivery. One therapist delivered three treatments and one delivered two. The length of MI session ranged from 31 to 70 minutes. The mean length was 55.4 minutes (SD=10.79). The frequency and quality of treatment integrity was measured by a Process Rating Scale develop by the UKATT team (Middleton, Tober, Frier & Finnegan 2001), in which the extent and frequency which the therapists engaged in ten MI behaviours was measured, using a likert scale. The extent to which behaviours were carried out ranged from not at all (0) to

extensively (4). Quality of behaviours performed by the therapists ranged from not all well (0) to very well (4). In the current sample, the mean frequency was 2.98 (SD = 0.45), ranging from 2.33 to 3.83. The mean quality was 1.68 (SD = 0.43), ranging from 0.73 to 2.18.

Table 5: Treatment Characteristics

Variable	Participants (N=10)
Length of session	
Mean (SD)	55.40 (10.79)
Range	31-70
Treatment site (N, %)	
Birmingham	3
Wolverhampton	1
Leeds	6
Treatment integrity	
Frequency	
Mean (sd)	2.98 (0.45)
Range	2.33 – 3.83
Quality	
Mean (sd)	1.68 (0.43)
Range	0.78 – 2.18

Research Questions

This study examined client utterances during ten MI sessions using Thematic Analysis, in which utterances were coded using an a priori coding framework based on the literature on ambivalence and cognitive dissonance. The aim was to explore:

a. The extent to which constructs related to ambivalence and cognitive dissonance were expressed by clients.
b. Whether other expressions relevant to the process of change but not related to ambivalence and cognitive dissonance are also seen.
c. Whether either ambivalence or cognitive dissonance more adequately captures the processes reflected in client language

Finally, the intention was to use the thematic analysis to generate a map representing the clients' expressions of factors influencing their intention to change.

How Were Constructs Related to Ambivalence and Cognitive Dissonance Expressed by Patients?

The themes identified were associated with either the theoretical dimensions of ambivalence or cognitive dissonance. Themes were mutually inclusive, but not mutually exclusive. The a priori identified themes were evident in client language (see Figures 1 and 2). Support was provided for the existence of both inter and intra-component cognitive inconsistencies, and the simultaneous accessibility of such inconsistencies. *Inconsistent thoughts, inconsistent thoughts and feelings and inconsistent feelings* associated with an ambivalent experience were reflected in client language. *Inconsistencies in behaviour, behaviour and affect, behaviour and cognitions and a discrepancy between a person's actual and ideal* associated with cognitive dissonance were also evident.

The theory-led analysis of the data also resulted in the identification of one additional theme associated with ambivalence, labelled *magnified ambivalence*. Five additional themes associated with cognitive dissonance were also evident in client language: *importance of the self, belief disconfirmation, magnified cognitive dissonance, reducing cognitive dissonance towards change* and *reducing dissonance away from change*. Complete candidate maps outlining the themes and sub-themes associated with ambivalence and cognitive dissonance are provided in Figures 3 and 4 respectively.

The following sections examine the expression of sub-themes relating to both theories in detail. The a priori identified themes are discussed first, followed by a discussion of the newly identified themes. Each is defined, and presented alongside example illustrative data from the analysis. The prevalence of ambivalence and cognitive dissonance and associated sub-themes are outlined in Table 6 and Table 7 respectively.

Figure 3: Complete Map Illustrating the A Priori and Newly Identified Ambivalence Themes

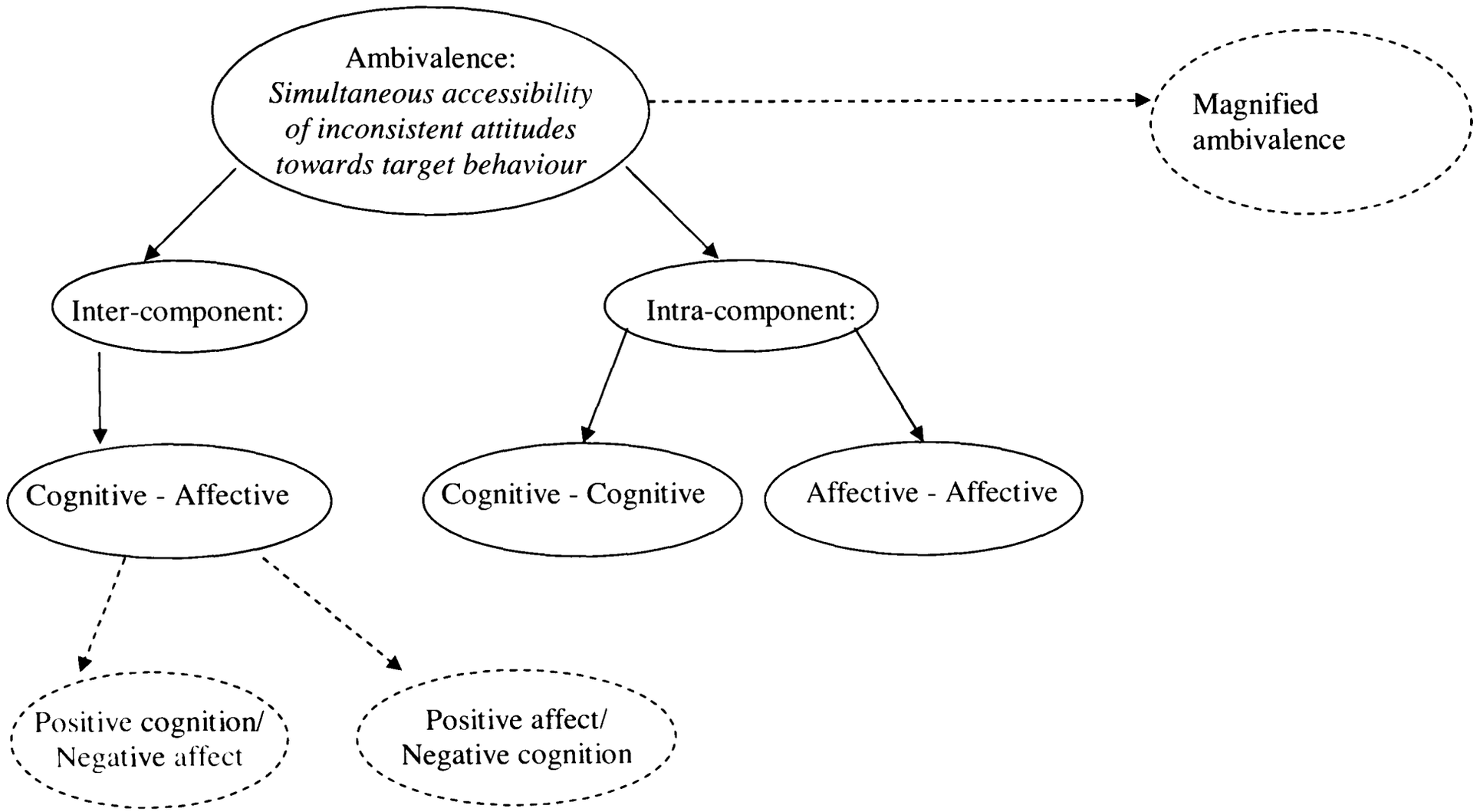


Figure 4: Complete Map Illustrating the A Priori and Newly Identified Cognitive Dissonance Themes

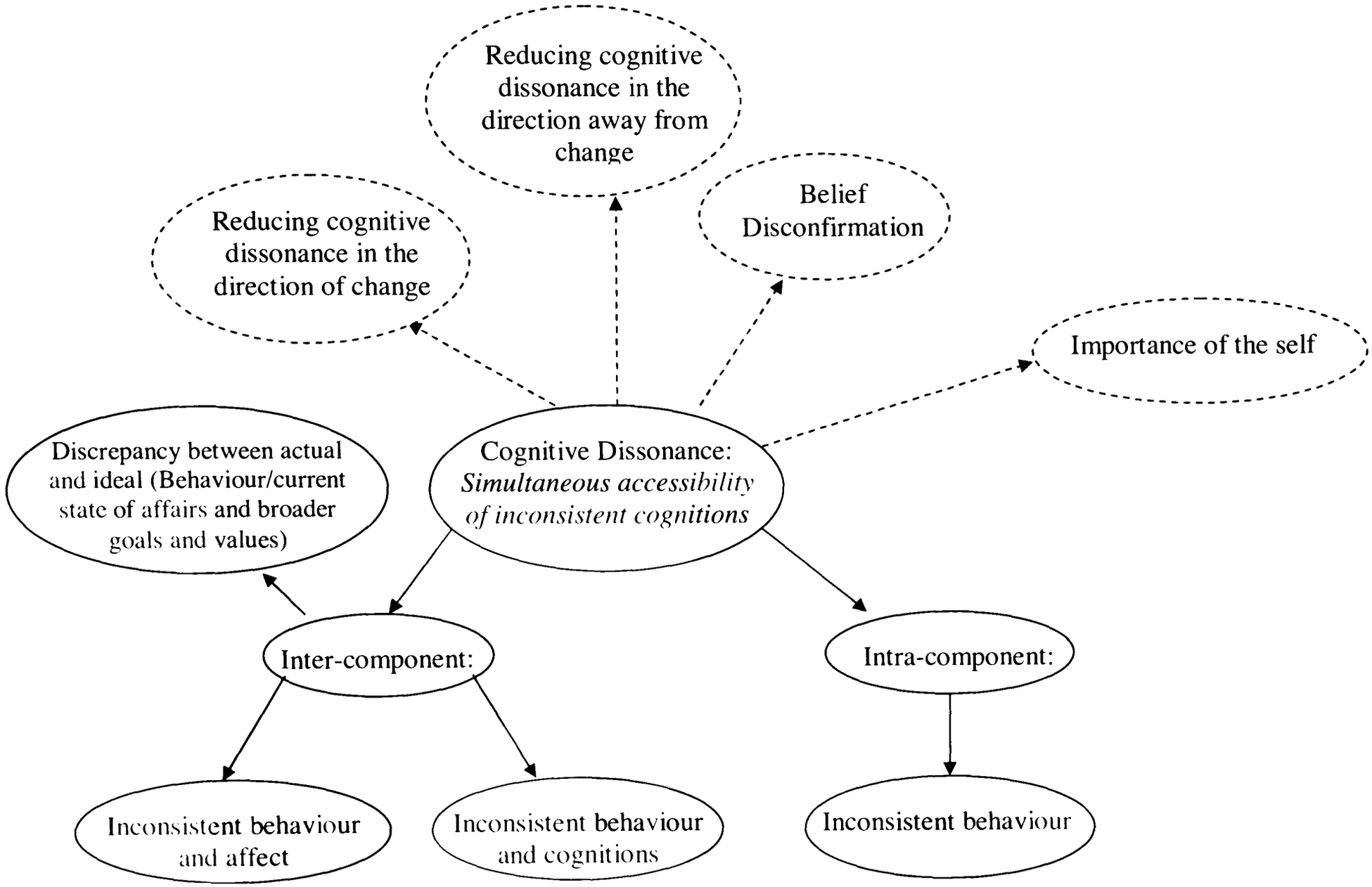


Table 6: Frequency of the Expression of Ambivalence and its Sub-themes

	1	2	3	4	5	6	7	8	9	10	MA	Total	Mean (S.D)
A Priori Identified Themes													
Cognitive-Cognitive Ambivalence	3	6	3	3	3	4	5	3	11	3	*9*	**44**	**4.4 (2.42)**
Affective-Affective Ambivalence	2	5	1	2	0	0	4	0	3	1	*4*	**18**	**1.8 (1.66)**
Cognitive-Affective Ambivalence	2	4	0	4	0	3	5	1	6	1	*6*	**26**	**2.6 (2.01)**
Cognition (-) Affect (+)	*2*	*2*	*0*	*3*	*0*	*3*	*3*	*1*	*3*	*1*	*4*	***18***	***1.8 (1.17)***
Cognition (+) Affect (-)	*1*	*2*	*0*	*1*	*0*	*1*	*2*	*0*	*3*	*0*	*2*	***10***	***1.0 (1.0))***
Newly Developed Themes													
Magnified Ambivalence (MA)	4	1	1	0	0	5	4	3	1	0		**19**	**1.9 (1.83)**
Total	**11**	**16**	**5**	**9**	**3**	**12**	**18**	**7**	**21**	**5**		**107**	**10.7 (5.75)**
Mean (S.D)	**2.75 (0.83)**	**4.0 (1.87)**	**1.25 (1.09)**	**2.25 (1.48)**	**0.75 (1.30)**	**3 (1.87)**	**4.5 (0.5)**	**1.75 (1.30)**	**5.25 (3.77)**	**1.25 (1.09)**		**26.5 (10.62)**	

Table 7: Frequency of the Expression of Cognitive Dissonance and its Sub-themes

	1	2	3	4	5	6	7	8	9	10	MC	Total	Mean (S.D)
A Priori Identified Themes													
Inconsistent Behaviour	0	1	0	0	1	2	2	0	1	1	*3*	**8**	**0.8 (0.75)**
Inconsistent Behaviour and Cognitions	0	4	1	2	0	3	1	4	3	1	*2*	**19**	**1.9 (1.45)**
Inconsistent Behaviour and Affect	1	2	0	0	0	1	0	0	1	1	*2*	**6**	**0.6 (0.66)**
Discrepancy Between the Actual and the Ideal	3	8	6	7	2	4	11	1	6	1	*5*	**49**	**4.9 (3.11)**
Newly Developed Themes													
Importance of The Self	3	1	1	4	4	0	4	0	4	1	*3*	**22**	**2.2 (1.660**
Belief Disconfirmation	3	4	0	3	1	0	3	4	1	2	*N/A*	**21**	**2.1 (1.45)**
Reducing Cognitive Dissonance in the Direction Away From Change	4	9	2	3	4	1	3	1	11	2	*N/A*	**40**	**4 (3.19)**

	1	2	3	4	5	6	7	8	9	10	MC	Total	Mean (S.D)
Reducing Cognitive Dissonance in the Direction Towards Change	3	0	2	1	2	0	0	9	2	6	*N/A*	**25**	**2.5 (2.77)**
Magnified Cognitive Dissonance (MC)	3	3	0	4	1	0	1	0	3	1	*N/A*	**15**	**1.5 (1.36)**
Total	**19**	**32**	**12**	**24**	**15**	**11**	**25**	**19**	**32**	**16**		**205**	**205**
Mean (S.D)	**2.11 (1.37)**	**3.56 (2.95)**	**1.33 (1.83)**	**2.61 (2.11)**	**1.67 (1.41)**	**1.22 (1.40)**	**2.78 (3.12)**	**2.11 (2.88)**	**3.56 (3.06)**	**1.78 (1.55)**		**22.78 (13.2)**	**20.5 (7.17)**

Ambivalence

As hypothesised, client ambivalence towards a target behaviour and the prospect of changing it were expressed in the following ways: inconsistent cognitions, inconsistent affect, and inconsistent cognitions and affect.

The researcher's familiarisation with the MISC 2.1 (Miller *et al.*, 2008) was used to guide the identification of the three a priori identified forms of ambivalence: *cognitive-cognitive ambivalence, cognitive-affective ambivalence, affective-affective ambivalence*. The MISC 2.1 is a coding framework which captures language indicative of a movement towards change, termed "change talk" and language indicative of a movement away from change, termed "sustain talk". Information from the MISC 2.1 was utilised due to the proposal that the MISC 2.1 can be used in the identification of examples of ambivalence in client language (Amhrein *et al.*, 2003; Miller *et al.*, 2008). Various categories, (reasons, desire, ability, need, commitment and other) supporting change and status quo were evident in client language observed in this study and utilised in the formation of the ambivalent sub-themes. An additional category of the MISC 2.1 labelled 'taking steps' was used to guide the identification of cognitive dissonance rather than ambivalence due to its focus on behaviour, a cognition encapsulated in dissonance theory. Contrary to the MISC 2.1, language indicative of cognition and affect associated with changing target behaviour are distinguished from one another.

Cognitive-cognitive Ambivalence

This is defined as expressions of inconsistent cognitions regarding changing a target behaviour, occurring in close proximity to one another.

I: *I'm in my own little world really.*

T: *When you are drinking?*

I: *Yes. It gives me a bit of time to myself.*

T: *Right. So you are in your own world. It's time for you. It's sort of time out is what it sounds like.*

I: *Yes – time out – yes.*

T: *So what's good is that you enter into your own little world for a while and you have time to yourself. What else is good about it?*

I: *I talk more, like with my partner. Everything comes out. I'm more truthful.*

T: *So when you've been drinking you find that you talk more, you open up more and you feel you are more truthful. What else is good about it?*

I: *It makes me sleep. I don't know.*

T: *That might be it. So when we look at what's good, you like having a drink and having time to yourself, you enjoy the taste, you find you are more talkative and you open up more with your partner and it also helps you sleep.*

Can I flip the coin over here – what's not so good – what's bad about your drinking?

I: *When I turn the wrong way. I get argumentative which I don't now but I did.*

T: *So if you are drinking a lot you become argumentative and you become violent?*

I: *Yes.*

T: *OK – Tell me a little bit about that, it seems to big feature. Is it with everybody or with just some people?*

I: *With my partner. I did drink a lot in front of my kids and I was always bad tempered.*

T: *So it makes you bad tempered with your children. So there's that factor but there's also you become argumentative and violent towards your partner.*

I: *I have done, yes.*

T: *That must lead to an unpleasant sort of environment for a couple of days after the event.*

I: *Yes because I used to black out and not remember.*

T: *So you suffered black outs as well?*

I: *I have blackouts and not remembered.*

T8: 50-79

The participant discusses four positive consequences associated with carrying out their drinking behaviour: it helps them get into their own little world, enables them to have some time out, allows them to talk with their partner in a more truthful manner and improves their sleep. These cognitions support status quo. Inconsistent to this the negative impact drinking has had on their life are then discussed: they argued more, drank in front of their kids, were bad tempered and had blackouts. These cognitions support behaviour change.

Cognitive-cognitive ambivalence was expressed on 44 occasions by the ten participants. A Mean of 4.4 (SD = 2.42) were expressed within each session of MI, ranging from 3 - 9. The highest number were expressed by participant 9 (N=11). Six participants expressed cognitive-cognitive ambivalence on three occasions.

Affective-affective Ambivalence

Defined as expressions of inconsistent affect regarding changing a target behaviour, occurring in close proximity to one another.

T: *OK so basically it helps you black out in various ways. But you also described previously how it makes you feel and it depresses your mood.*

I: *Yes it does. Yes.*

T: *So. At the end of the day on the one hand it helps you blank things out. On the other hand it actually makes you feel worse.*

I: *Yes.*

T12: 394-398

T: *So we are looking at the psychiatric side of things, depression is something that you call to mind. That sounds as though you relate that in some way to your drinking, the depression?*

I: *Yes I did. I drank a lot when I was depressed.*

T: *So you became depressed and drank a lot. Did the drinking make you depressed?*

I: *I can't remember. I think so.*

T8:444-449

The above two passages illustrate clearly inconsistencies and affect experienced due to drinking alcohol. The participants reflect upon how drinking can negatively affect their mood, but also be used to help them feel better.

T: *If we start off with if you have any concerns about your drinking. Obviously you have and that's why you are here. What do you like about you drinking?*

C: *Basically it gives me a feeling of, I don't know what the words are, security, I like it a lot. I feel better about myself.*

T: *I...*

C: *I feel a bit more self-confidence.*

T: *It instils more self-confidence in you.*

C: *Yea, it seems to get me up as well, you know obviously.*

T: *Okay, so it cheers you up as well.*

C: *Yea.*

T: *It cheers you up as well, it puts you in a happier mood.*

C: *Yea.*

T: *Yea okay. Anything else you like about you drinking?*

C: *Umm, to a certain extent some of the socialising but I am not really a social drinker. But if I do so and have a bad drink a good session I tend to do it on my own in private -to a certain extent socialising.*

T: *So it helps you socialise to a certain extent its part of your socialisation.*

C: *It is part of it - there is no way of avoiding it, even with my hobbies and meetings I go to (inaudible) in public houses everyone drinks.*

T: *So its part of your lifestyle really is what your saying.*

C: *Its part of my lifestyle.*

T: *Part of your lifestyle, okay. Well anything else you enjoy about you drinking?*

C: *That I enjoy like?*

T: *That you like about your drinking.*

C: *Can't think of anything else.*

T: *Okay, so you can't think of anything else you enjoy about your drinking. Okay. Tell me some of the things you don't like about your drinking. What are the bad things about your drinking?*

C: *The physical affects it is having on me.*

T: *Okay you're very concerned about the physical effects.*

C: *Very concerned.*

T: *You're very concerned about the physical effects. What else?*

C: *The binge drinking.*

T: *Okay.*

C: *That is once I've hit it, it's absolutely uncontrollable until I have made myself really, really ill.*

T: *Okay.*

C: *And I don't stop until I am ill.*

T: *Okay, so you're saying that's its an important part when you start binge drinking you feel you have less control and you only stop drinking when..*

C: *I'm ill.*

T: *You are ill. Well, anything else you don't enjoy about your drinking? The not so nice things about your drinking.*

C: *Losing my temper.*

T: *So you are a bit stuck are you? You'd like to go further?*

C: *Yes. I don't really enjoy drinking at the end of the day. You know it's ... my trouble is I need to be able to control it rather than it control me. Sociable drinking – I'd be alright if I could do that but I do get the craving every day.*

The participant begins by expressing the various ways alcohol positively impacts their feelings. It gives feelings of security, self confidence and happiness. This positive affect they associate with their drinking supports status quo. In contrast to this, the participant expresses concern on the negative impact alcohol is having on their physical health. They also express that they do not really enjoy drinking and recognise that drinking can result in them losing their temper. These negative feelings support behaviour change. Another example of how the affective content of clinician's language can influence the elicitation and reinforcement of feelings associated with a behaviour, is provided.

In total, affective-affective ambivalence was expressed on 18 occasions. A Mean of 1.8 (SD = 1.66) were expressed within each session of MI. The number of expressions ranged from 0-5. Affect was expressed in three different ways: as an expression of a feeling (positive or negative) towards a target behaviour; as a feeling associated with changing or not changing a target behaviour; and as a positive or negative consequence associated with carrying out or not carrying out a target behaviour. The clinician's language was also taken into consideration when distinguishing between a participant's affect and cognitions associated with their target behaviour. For example, a clinician may ask, "how do you feel about your drinking?" or "what do you think about your drinking?" It was at times difficult to distinguish between language illustrative of affect from that illustrative of cognitions.

Cognitive-affective Ambivalence

Defined as expressions of inconsistent cognitions and affect regarding changing target behaviour, occurring in close proximity to one another.

T: *That puts you in a very high category. This is based on information from a census returned. So the percentage of population of women who drink above your category is nil. So you are in the highest drinking category. How do you feel about that?*

I: *Terrible.*

T: *You don't feel so good about that.*

I: *No*

T: *Is that what you had imagined?*

I: *I assumed it was quite a bit but it is because I drink on my own. I don't go out. I think that's why I drink so much.*

T: *You drink at home do you?*
If I were to ask you now Carol what you like about your drinking? What would that be?

I: *It makes me go to sleep.*

T: *Helps you sleep. That's a problem otherwise?*

I: *Terrible sleeper.*

T: *When you've had a drink what affect does that have on your sleeping?*

I: *Oh I go to sleep like that.*

T: *So you can go to sleep immediately.*

I: *Um*

T: *And then what happens – are you able to stay asleep for the night?*

I: *Yes mostly.*

T: *It doesn't disturb your sleep pattern?*

I: *No it's just that when I don't have a drink I can't sleep.*

T: *So your body has got used to using the alcohol in that way. Is there anything else particularly that you like about your drinking?*

I: *No.*

T: *Nothing at all.*

I: *No*

T: *OK so if I were to ask you what you don't like about your drinking what might that be?*

I: *Well it makes me depressed so I have another drink to help me. But sleeping is the worst.*

The participant expresses negative affect on hearing that compared to the general population's alcohol intake they appear in the highest category. They also state that alcohol negatively affects their mood. These feeling experienced by the participant support behaviour change. In contrast to this, the participant expresses two cognitions supporting status quo. A positive consequence of drinking is its ability to improve the participant's sleeping patterns. Another reason the participant believes they drink so much is because of their tendency to drink on their own. Also illustrated is how the cognitive/affective content of clinician language can influence the component of a participant attitude elicited. Following the prevision of test results the clinician asks "How do you *feel* about that", eliciting an affective rather then cognitive response.

Cognitive–affective ambivalence was expressed on 26 occasions within the entire data set. A Mean of 2.6 (SD = 2.01) was expressed within each session of MI. The number of expressions ranged from 0-6. A distinction was also made between positive affect associated with target behaviour occurring in close proximity to negative cognitions, or cognitions indicating a movement in the direction towards change (cognitions (-) affect (+)); and negative affect associated with their

target behaviour occurring in close proximity to positive cognitions, or cognitions indicating a movement in the direction away from change (cognitions (+) affect (-)). Two passages contained an example of both types of cognitive-affective ambivalence. Cognitive (-) affect (+) was expressed on 18 occasions. A Mean of 1.8 (SD = 1.17) expressions occurred per MI session, ranging from 0-3. Cognitions (+) affect (-) was expressed on 10 occasions. A Mean of 1.0 (SD = 1.0) was expressed in each MI session, ranging from 0-3. The example provided above is illustrative of cognitions (+) affect (-). The example provided below is illustrative of cognitions (-) affect (+).

T: *What did you like about your drinking? It sounds like there's something there that you like about your drinking, that it's doing something for you and I'm just wondering what that is?*

I: *I suppose it could be escapism but I'm not sure what I'm escaping from. Just... just ... instead of drinking socially I just drink excessively after a little while.*

T: *As you say it sounds like you have this period of starting but you are not really sure why you are starting.*

I: *No just relaxation.*

T: *So drinking is relaxing for you. So what else is it doing for you? Making you feel better? Making you feel worse? Making you feel more – I don't know - that you can enjoy something that you are doing?*

I: *It feels better at the time.*

T: *Feels better at the time. In which way does it feel better?*

I: *Just relaxed, less tense better I think.*

T: *Sometimes alcohol is not doing too much to you, it's just making you more relaxed and less tense and once you start drinking you can't stop but then I'm just wondering what you don't like about your drinking?*

I: *It interferes with everything else, like work or home life or studying or ... it just takes over. There's nothing else. I'm not doing anything else. My life was worse. My life was just a round of drinking. I'd get up and started drinking, carry on drinking and eventually fall asleep in bed or wherever and then get up and start all over again.*

6: 41-63

The participant discusses the various ways drinking alcohol positively enhances their psychological well-being. The positive affect associated with drinking supports status quo. Alcohol enables them to escape in a way that helps them relax, feel better and experience less tension. In contrast, cognitively they recognise drinking alcohol interferes with their home and work life experiences, having a negative impact. These cognitions support behaviour change.

Cognitive Dissonance

As hypothesised, cognitive dissonance associated with a target behaviour was expressed in the following ways: *inconsistent behaviour; inconsistent behaviour and cognitions; inconsistent behaviour and affect; and as a discrepancy between the actual and ideal* (see Figure 2).

Inconsistent Behaviour

Defined, as clear references to current or recent behaviour expressed in close proximity to another, clear expression of current or recent behaviour inconsistent to this.

T: *You know it's not doing you any good. You know that once you've had that initial sort of drink you feel confident then you are going to plummet and you are not going to feel so good once the affect has worn off.*

I: *Like New Years Day we spent New Year with my brother and they kept saying have a drink of Guinness but no I was fine and I didn't have a drink all day and I felt fine then.*

T: *What happened for you to feel that you didn't want a drink that day?*

I: *I think we was at his house and there were so many people. Like there's only me and Michelle where I am and when she goes to school I am on my own most of the day. At his there were so many people. They've got grandchildren and it's lovely and they said help yourself if you want a drink and she said there's sherry there, try a sherry but I didn't just drink one glass of sherry, I drink it all.*

T: *Are you saying you did drink, or you didn't want to?*

I: *No I did.*

T: *What happened then?*

I: *I drank it all.*

T: *The whole bottle.*

I: *Yes.*

T7:126-143

Evident in this passage is inconsistency in how the participant chose to behave during New Year's Day. When first offered a drink the participant declined, however when offered again later the participant not only tried a drink, but proceeded to drink a whole bottle.

In total, inconsistent behaviour was expressed on 8 occasions. A mean of 0.8 (SD = 0.75) were expressed in each MI session, ranging from 0-2. Four participants did not express this theme.

Inconsistent Behaviour and Cognitions

Defined, as clear references to current or recent behaviour, expressed in close proximity to thoughts inconsistent with that behaviour.

T: *So. At the end of the day on the one hand it helps you blank things out. On the other hand it actually makes you feel worse.*

I: *Yes. It's just punishment. It's like spending all your money to punish yourself. I don't get any goodness out of it. If people could go and have a bottle of wine with a meal and have a natter and a giggle and really enjoy themselves. I just walk into the place and drink a whole bottle and order the next one. You know. And the next one and the next one until I'm wobbling home. That's just outrageous. It's totally outrageous*

T12: 378-403

In this passage the participant provides a description of a specific aspect of their drinking behaviour. When they walk into a restaurant, pub or bar they tend to continue drinking alcohol until they wobble home. The participant also express numerous negative cognitions associated with their drinking behaviour; they refer to it as "spending all your money to punish yourself" recognising that no good comes from the behaviour. These cognitions contradict their actions.

Inconsistent behaviour and cognitions was expressed on 19 occasions within the data set. A Mean of 1.9 (SD = 1.45) were expressed within each MI session, ranging from 0-4.

Inconsistent Behaviour and Affect

Defined, as clear references to current or recent behaviour, expressed in close proximity to affect inconsistent with that behaviour.

T: *What's good about your drinking?*

I: *Well, at the moment it helps me to relax and I seem to be more in control over the last couple of months than I have been in quite a while.*

T: *Right so what's in the drink that helps you relax? What else is good about it?*

I: *I enjoy it.*

T: *What do you enjoy about it?*

I: *I don't know because I'm not really a social drinker. My girlfriend doesn't drink and just nowadays I've been setting it back to 6 O'clock at night.*

T: *So you are introducing quite a lot of control.*

I: *Yes I've had to do that for myself because I know how weak willed I am.*

The participant describes being more in control of the behaviour, making positive changes. In conflict to this they reflected upon the enjoyment attained when drinking. These positive feelings may negatively influence drinking behaviour.

In total, inconsistent behaviour and affect were expressed on 6 occasions. A Mean of 0.6 (SD = 0.66) were expressed within each MI session, ranging from 0-2. Five participants did not express this theme. Although participants' target behaviour is central to all aspects of an MI session, clear references by the participants to their target behaviour was rarely expressed in close proximity to clear expressions of recent and current behaviour inconsistent with it, or inconsistent affect or cognitions.

Discrepancy Between the Actual and Ideal

Defined as clear references to current or recent behaviour, or the present state of affairs associated with that behaviour, expressed in close proximity to inconsistent broader goals and values.

I: *Oh it has been an important part of my life. It used to be seven nights a week at one time but now it is weekends, it is binging. When it was seven nights a week, I didn't need to drink that fast. Now I need to get the same level as what I got in a week, in two days. I'm going to have to stop it.*

T: *So, you're going to have to stop. You feel that that's the bottom line.*

I: *Yes now my liver's bad as well as my heart, I don't want to throw my life away. I haven't got a proper life really. The consultant is telling me if I don't stop drinking I'm going to die anyway. If I can stop drinking she said I die of something else in 30 years time.*

T: *It sounds as if you are able to do something about your drinking; she thinks you've got something to look forward to.*

I: *Yes I'll save up and have a good holiday.*

T: *Your relationship with your partner as well.*

I: *Yes and I've got a mortgage to pay. It looks better if I can do it.*

T1:623-636

The participant describes the present state of affairs associated with their current drinking behaviour; they tended to drink the same amount in two days as they did in previous weeks. Subsequently, they describe their ideal situation; no longer wanting to waste their life due to drinking, endeavouring to save up to go on holiday wishing they are able to pay their mortgage.

T: *The biggest worry probably is the side to do with your children and with the fact that what you described is that you feel guilty.*

I: *Definitely but their Mum doesn't understand. I've tried to explain to her that kids can be very therapeutic and they can be a great thing. They can give you strength when you are in a scenario you've got to deal with and her stopping me from seeing my children is not helping my cause in the slightest.*

T: *Right, so what you are saying is that one of the goals. One of the most important goals for you would be to get access to your children again.*

I: *Definitely.*

T12:302-311

The participant reflects upon their present state of affairs; he worries about his children and is currently being stopped from seeing them. His most important goal is to gain access to his children.

Discrepancy between the actual and ideal was expressed on 49 occasions within the data set. A Mean of 4.9 (SD = 3.11) were expressed within each MI session. Participant 7 expressed the maximum number of this theme (N=11). Participants 8 and 10 only expressed a discrepancy between their actual and ideal on 1 occasion.

In addition to the a-priori coding frame based upon ambivalence and cognitive dissonance, allowance was given for the generation of new themes and sub-themes relating to one or both of

these theories. Several new themes and sub-themes were identified. Analysis led to more refined thematic maps for both constructs and incorporates the newly identified as well as the a priori themes, which are outlined in Figures 5 and 6. Appendix 6 and 7 provide an outline of candidate thematic maps developed in the early stages of analysis related to ambivalence and cognitive dissonance respectively. A description of these themes is provided below, in addition to examples from transcripts illustrating them. An interpretative analysis is also provided.

An additional theme associated with the construct of ambivalence was identified entitled: *magnified ambivalence*. During the analysis it was evident that participants expressed inconsistent cognitions in coinciding utterances. Direct acknowledgements of feeling ambivalent were also reflected in clients' language. The increased proximity of these utterances infers the simultaneous accessibility of cognitions would be greater, inducing a magnified state of inconsistent-related discomfort.

Magnified Ambivalence

Defined here as the acknowledgement of feeling, conflicted in cognitions or feelings towards target behaviour. The presence of inconsistent cognitions within coinciding utterances is also included as is a positive response to a double sided reflection made by the therapist. This also includes an inability to make a decision regarding changing or not changing the behaviour (either not able to make a decision or fluctuating in a decision regarding what they want to do).

C: *I've decided I don't want to drink at all but my body and my mind are telling me different things. I mean, em... Last night, it's daft. It's a daft thing this situation.*

T2: 375 –376

The participant expresses a conflict between their body, perhaps associated with the more affective aspects of their attitude, and their mind, perhaps more associated with the cognitive components of their attitudes.

C: *Somehow, if you could take the section of my brain away which is saying, come on lad take a drink it will do you the world of good, have a laugh. If you could just take that out. Coz I'd just go out for say, Sunday lunch and a Saturday, Tuesday night.*

T2:390-392

The participant goes on to express the wish that the section of their brain supporting the continuation of their behaviour could be removed, indicating that this could strengthen their positive attitudes associated with behaviour change.

T: *That could be one option but it has got to be down to you really. It seems to be something you feel unsure about or unconfident about in terms of actually stopping. Another option is to come back and see how you've got on but you've got to be ready to make that choice. If you don't feel able to do that today then that's fine, you can discuss it next time.*

I: *Well I'll leave it for today.*

T: *You're not ready to make a decision about it today.*

I: *I'm going to think about today and how this session has gone and then I'll make a decision from there. Is that alright?*

T2:430-437

The participant reports at the end of their session that they are not yet ready to make a decision regarding actions about their behaviour. They would like to reflect upon the session, making a decision at a later point. This reflects their ambivalent state towards changing target behaviour.

Magnified ambivalence was expressed on 19 occasions in the entire data set. A Mean of 1.9 (SD = 1.89) expressions occurred within each MI session. Magnified ambivalence was not expressed by three participants and only expressed once by three participants. Participant 6 expressed the maximum number (N=5). Participants 1 and 7 both expressed magnified ambivalence on 4 occasions. The majority of expressions of magnified ambivalence occurred in the latter part of the MI session. It is noted, however, that few expressions of magnified ambivalence occurred within the data set.

Five additional themes were identified associated with the experience of cognitive dissonance: *importance of the self, belief disconfirmation, magnified cognitive dissonance, reducing cognitive dissonance towards change and reducing cognitive dissonance away from change*. The former three themes are hypothesised to result in an experience of inconsistent-related discomfort the latter two are associated with attempts to achieve cognitive consistency. These themes were guided by research illustrating: the role the self plays in the dissonance process; the impact of the provision of new and conflicting information on the magnitude of dissonance; the relationship between the simultaneous accessibility of inconsistent cognitions on the intensity of inconsistent-

related discomfort; and the proposal that a motivational drive to achieve cognitive consistency is experienced.

Importance of the Self

Defined as reflections on being happy or disappointed in oneself due to carrying out target behaviour. Reflections on inconsistencies in the type of person one is whilst carrying out and not carrying out target behaviour, expressed in close proximity of one another.

I: *If I stick to my limit I just get tipsy and I don't get drunk. When I drink I turn into a prat like most people probably do. I get too aggressive sometimes.*

T: *Right, so if you drink too much you act like a prat.*

I: *Yes, once I get past a certain point, there's not a lot that would stop me. I drink to oblivion once I'm past a certain point.*

T: *You said a number of things there that you are not happy about. One is that you act like a prat – many people do. Not many people like to see a video of themselves when they've drunk a great deal. I think you are absolutely right there, it's very common but the point is that you are not very happy about you doing it.*

So you are not happy about that. You described becoming aggressive when you have over done it; if you go past a certain limit.

I: *Not every time. I'm a placid person by nature and it brings me out of my shell. Sometimes I feel like it goes to the opposite.*

T: *you don't like the things that you do. Is that right?*

I: *No I don't. I am a completely different person. You see me now, straight, you know I am rational about things and you know I can hold a discussion and put a point of view across but as soon as the beer goes down the neck it's just a different person. It's completely alien to me. I just turn into a monster and I don't like that monster.*

T3: 217-222

The participant discusses the inconsistencies between the person they are whilst drinking and not drinking. When sober they see themselves as placid, rational, capable of holding a discussion, and getting their point of view across. Whilst drinking they become a different person, being aggressive, which they describe as monstrous. On two occasions they expressed dissatisfaction towards the person they become whilst drinking.

In total, importance of the self occurred on 22 occasions. A mean of 2.2 (SD = 1.66) were expressed within each session of MI, ranging from 0-4. Four participants expressed this theme on 4 occasions. Two participants did not express language relating to the importance of the self.

Experience of Belief Disconfirmation

Defined as a negative or surprised reaction to new information provided by the therapist regarding the consequences of carrying out a target behaviour on their lives.

T: *So that is a bit of range to inform you about the blood alcohol levels. If we look over here, we then find that in a typical week from your questionnaires, you would have a reading of around about 600.*

I: *Wow.*

T: *You really do look shocked this time.*

I: *Yes.*

T: *On a heavier day of drinking it sounds as though your drinking was pretty much the same. So 600 is the sort of blood alcohol level we would expect to find within yourself when you were drinking heavily.*

I'd just like to ask you about your reaction to that first of all. First of all you gasped as people do when they are surprised or shocked about things. What went through your mind when you looked at that?

I: *It just seems, everything that is wrote down – it just seems a shock for me. I didn't think it was that bad. I honestly didn't think it was that bad at all.*

T: *It sounds similar to before when you knew it was high but were surprised to find out just how high it is.*

What's going through your mind now – what are your feelings about it now?

I: *I'm disgusted with myself.*

T: *You're disgusted. Really. So you are really very unhappy to see these figures aren't you and you feel disgusted?*

sobs

It's OK take your time.

This has had quite an impact on you hasn't it?

sobs

Alright you just take your time and recover a bit.

Can I ask you now what is it that is making you cry at the moment? What is going through your mind?

I: *It's the knowing.*

T: *Knowing that you were drinking at these levels.*

I: *Yes*

T8: 336-365

On hearing feedback from their test results the participant expresses shock and the therapist observed a distressing emotion. The participant states that they did not think it was that bad, strengthening the idea that they have been provided with new information conflicting their cognitions. The negative affect they experienced, combined with the statement "it's the knowing", further substantiates the belief disconfirmation hypothesis that the provision of new and conflicting information results in cognitive dissonance. They express disgust with themselves, further supporting the importance of the self in the dissonance experience. This passage suggests that when a person is provided with new and conflicting information, not only do they experience an increased simulations awareness of their inconsistent cognitions, but also a threat to their integrity.

T: *If we look at these anyway. Your GGT. The day you and it, this was looking at how much you were drinking then. The normal score is less than or including 50. Your score was 1150.*

C: *(SILENCE)*

T: *Are you surprised by that?*

C: *I'm absolutely shocked. I haven't had anything to drink in a fortnight.*

T0: 714-719

The participant responds with silence to the provision of the results of a liver functioning test. Following prompting by the therapist the participant states their absolute shock. This provides further evidence supporting the hypothesis that the provision of new and conflicting information results in negative emotion.

Belief disconfirmation was expressed on 21 occasions within the data set. A Mean of 2.1 (SD = 1.45) were expressed within each MI session, ranging from 0-4.

Similar to language illustrative of ambivalence, client language representative of the various forms of cognitive dissonance and the experience of inconsistent-related discomfort occur

in such a way to indicate a magnified experience of psychological tension. Participants expressed language reflecting a direct acknowledgement of feeling conflicted in cognitions associated with a target behaviour. Inconsistent cognitions also occurred within coinciding utterances.

Magnified Cognitive Dissonance

Defined here as the acknowledgement of feeling conflicted in cognitions associated with a target behaviour. The presence of inconsistent cognitions within coinciding utterances is also included as is a positive response to a double sided reflection by the therapist.

C: *That's what I said, like Jekyll and Hyde.*

T: *Yeah, so it's actually made you like Jekyll and Hyde, you have like two different personalities or which one is it going to be.*

T2: 325-328

The participant directly acknowledges inconsistencies in their personalities when drinking and not drinking. This passage provides further support for the importance of the self in the process of MI and the dissonance experience.

Magnified cognitive dissonance was expressed on 15 occasions within the entire data set. A mean of 1.5 (SD=1.84) occurred within each session of MI, ranging from 0-4. A discrepancy between the actual and ideal was the theme expressed the most in this form, occurring on five occasions.

A further two themes were identified relating to cognitive dissonance theory. They represent the idea central to this theory that once inconsistent-related discomfort is aroused an inherent drive to reduce the psychological tension is experienced. The first theme, reducing cognitive dissonance towards change, represents an attempt made to reduce inconsistent-related discomfort in the direction towards change. The second theme, reducing cognitive dissonance away from change, represents an attempt to reduce inconsistent-related discomfort in the direction away from change.

Reducing Cognitive Dissonance Towards Change

Clear expressions of recent or in-session alteration in how one appraises a target behaviour, indicating a movement in the direction of change. Also includes language reflective of past

attempts to reduce cognitive dissonance in the direction away from change, indicative of an in-session or recent reduction in the use of such techniques.

T: *Your memory is bad as well?*

I: *Yes my memory is bad so I'd like to stop.*

T: *You think this is all due to your drinking?*

I: *Yes it is. Well I think together... when I had my heart attack I died 3 times so it may have done some brain damage to be honest. You know how you forget things like that. I was thinking ,well, has the blood stopped in my brain long enough for me to be, you know, forgetting things, but it isn't it is beer. You try to put other excuses on to it and it's beer. They call me "Buck" - my nickname - it's short for bucket.*

T1:88-95

Following a discussion of the participant's problem with their memory, the participant initially responds positively to the therapist's question, "you think this is all due to your drinking". Subsequently, they appear to alter their cognitions, emphasising the extent to which their heart attack may have impacted their memory. This is indicative of an attempt to reduce dissonance in the direction away from change. They immediately recognise that their memory problems are due to drinking and acknowledge their attempts to add cognitions to their repertoire which support status quo. This represents a clear attempt by the participant to reduce their dissonance in the direction towards behaviour change.

I: *You see this is why I decided to quit because I was drinking because I was depressed. Basically there was two, there was the police station that sort of puts the process in after a couple of weeks. The main point came when I was (inaudible) in August. I'd taken me and the wife and grandkids to Blackpool. She was walking on the beach with her grandson and it's that image that stopped me drinking. I suddenly realised that if I wanted to enjoy that I would have to stop drinking. It's that more than anything which was the main motivating factor that next year when I take the kids out I'm going to be cold stone sober. More importantly, it struck me that my wife wasn't particularly happy because I'd been drinking when I was with the kids. I didn't drink much but it was enough. I also know that although the wife is very supportive she is also very wary when I am drinking which is*

understandable especially if we've got kids around. It was at that point I said no. I've now got my own (these were her children) but I've now got my own grandson.

T13: 377-389

In this example the participant explicitly describes a recent realisation that they had to quit drinking and their reasons. Their main motivating factor is to enjoy their life, particularly spending time with their grandchildren and their partner's grandchildren in sobriety. This represents a very clear attempt by the participant to reduce their dissonance in the direction of change, by adding cognitions to their repertoire which strongly support behaviour change.

In total, reducing cognitive dissonance towards change was expressed on 25 occasions. A Mean of 2.5 (SD = 2.77) expressions occurred in each MI session. The maximum number of expressions was 9. Three participants did not express this theme.

Reducing Cognitive Dissonance Away From Change

Language reflecting the addition of new cognitions supporting a target behaviour or the minimisation or trivialisation of problems associated with carrying out the behaviour. Includes language indicative of low self-efficacy regarding changing the behaviour or an externalisation of the responsibility of the behaviour and changing that behaviour.

T: *If you turn to the next page this is how alcohol might affect other areas in your life. This is about problems that you have in different areas of your life that might be related to your drinking. The first one is physical health and you have a score of 4 which is an above average level so alcohol would cause you an above average level of problems with your physical health. Does that fit with your experience?*

I: *What, me being ill?*

T: *Yes as a result of alcohol.*

I: *Yes I've always been anaemic since an early age. I found out when I was 20, we're all anaemic in the family.*

T7:238-246

The therapist provides the participant with feedback regarding the impact of drinking on their physical health. The participant responds in a way which indicates they are distracting themselves from negative cognitions associated with their drinking behaviour, in an attempt to reduce dissonance in the direction away from change. Rather than reflecting with the therapist about the impact of their drinking on their physical health, they describe a general health problem they have had since their youth, not associated with drinking.

T: *So you've already started to think about what you are going to say to people when you've stopped.*

I: *Oh yes. If it happens yes. But I don't understand how you are going to make it work at all actually.*

T: *So you are not convinced this will be helpful.*

I: *I just don't know. You are only showing me facts what I know really. I knew all that before I came.*

T1:338-343

This example is illustrative of an attempt by the participant to reduce their inconsistent-related discomfort in the direction away from change, through externalising the responsibility of behaviour change onto the therapist rather than themselves. They express their ambivalence regarding whether they will change their behaviour, and concerns that attending treatment will not be helpful.

T: *OK can I move on to this one as well because these are all related. What this one is showing is that the word we need here is none. It is saying what is the percentage of the population drinking above your category. Well there is none because you are in the very highest category in the UK. What do you think of that?*

I: *I know a few. It is not a category I want to be in at all but...*

T: *So you don't like being in that category.*

I: *Definitely not.*

T: *So definitely you don't like being in it. You sound quite emphatic about that, that this is no good for you. So you don't like this. In fact you said definitely don't like this. You said something before ...*

I: *Yes I know those who drink a lot more than me There should be some, like, it should be like 2 to every 5 million or something.*

T3:211-222

Following being informed that their drinking behaviour falls into the highest category in the UK, the participant expresses their desire not to be in that category. However, they go on to express knowledge of people who drink a lot more than themselves. This is indicative of an attempt to reduce their dissonance state in the direction away from change, through minimising the severity of their drinking behaviour. The interpretation of their next utterance is somewhat challenging. It appears to infer the participant believes categories used to define how one's drinking behaviour compares to the general population may be inaccurate and should be altered.

Reducing cognitive dissonance in the direction away from change was expressed on 40 occasions within the data set. A Mean of 4 (SD= 3.19) expressions occurred within each MI session. Participant 9 expressed the maximum number of this theme (N=11). The minimum number occurring was 1, expressed by participant 6 and 8. Participant 9 also expressed the maximum number of cognitive-cognitive ambivalence (N=11) in addition to the maximum number total expressions of ambivalence (N=27).

The maximum number of expressions of inconsistent-related discomfort was also recorded by this participant (N=36). The participant who expressed the second highest number of reducing cognitive dissonance in the direction away from change (N=9) also expressed a high number of expressions of inconsistent-related discomfort (N=36). A more detailed analysis of participant 9's transcript of MI revealed that the high number of expressions of reducing cognitive dissonance away from change and of cognitive-cognitive ambivalence may be due to the overlapping nature of these themes. Included in language representing the reduction of cognitive dissonance in the direction away from change is that indicative of low self-efficacy when considering changing target behaviour. Language representing low self-efficacy could also be included in the theme of cognitive-cognitive ambivalence, in that cognitions supporting change expressed in close proximity to such language is captured in this theme. Reducing cognitive dissonance away from change and cognitive-cognitive ambivalence overlapped on five occasions in participant 9's transcript.

Reducing cognitive dissonance in the direction away from change frequently occurred following the provision of feedback by the therapist. 11 (36.4%) out of the 40 expressions of reducing cognitive dissonance in the direction away from change were prefaced by feedback. Two of these examples also included the expression of belief disconfirmation by the participant. An example is provided below:

T: *Slightly higher. That's the right amount for a woman in fact. 21 is for a man. So we are talking about over seven days, three units a day. Which is, if you had every day drinking one and a half pints a day. OK? 118 is obviously a lot more than 21 and as it says if you look at males your drinking rate is as high as you get. Over here we've got a number of units per week and the percentage of people who drink above that. You can see people who drink moderately 11 to 21 so that's just to the limit... we are talking about a quarter of people drink more than the recommended limit. 12 percent of people drink fairly high. 5 percent drink what is rated as 5 so that's up to 50 units per week which really puts them within the risk category so about 5% or a twentieth and then 51 plus you are talking about 1% so you are in the top.*

I: *General population.*

T: *That's out of the general population.*

I: *So that's not bad really It's not as bad as it could be. There could be a hell of a lot more people drinking a hell of a lot worse.*

T12:130-143

The participant is informed that they drink more alcohol than 99% of the general population. Rather than reflect upon this information with the therapist, the participant appears to distract themselves from this new cognition in an attempt to reduce their dissonance state in the direction away from change. The participant focuses upon the amount the general population are drinking, stating "it is not as bad as it could be" and "there could be a hell of a lot more people drinking a hell of a lot worse". They ignore the importance of the information provided and the impact it may have.

Summary

In total, ambivalence was expressed on 107 occasions. Four themes were identified, 3 a priori and 1 newly identified. A Mean of 10.7 (SD=5.75) expressions occurred within each MI session. The maximum number was expressed by Participant 9 (N=21). Participant 5 expressed the lowest number (N=3). Cognitive-cognitive ambivalence was expressed more than any other theme within this construct (N=44). Affective-affective ambivalence was expressed on 18 occasions and cognitive-affective on 26 occasions. A magnified ambivalent experience was hypothesized to occur on 19 occasions. The form of ambivalence expressed most in this form was cognitive-cognitive ambivalence occurring on 9 occasions.

In total, cognitive dissonance was expressed on 205 occasions. Overall, nine themes were identified, four a priori and five newly identified. A Mean of 20.5 (SD=7.17) were expressed

within each session, ranging from 11-32. Participants 2 and 9 both expressed cognitive dissonance 32 times. The minimum number of expressions was 11 expressed by participant 6. The theme expressed the most was discrepancy between the actual and the ideal (N=49). Reducing cognitive dissonance in the direction away from change was also one of the highest themes expressed (N=40). The theme expressed the least was inconsistent behaviour and affect occurring on 6 occasions. A magnified cognitive dissonance experience was hypothesised to occur on 15 occasions. The form of cognitive dissonance expressed most in this form was a discrepancy between the actual and the ideal occurring on 5 occasions.

Eleven of the thirteen ambivalence and cognitive dissonance themes identified represent language indicative of an experience of inconsistent-related discomfort (see Table 8). In total they were expressed on 241 occasions. A Mean of 24.1 (SD=11.0) occurred within each MI session. Participant 7 expressed the highest number (N=40) and participant 5 expressed the lowest (N=12). Two themes were identified illustrative of an attempt to reduce the experience of inconsistent-related discomfort, indicative of a movement towards and away from change. The former were expressed on 25 occasions and the latter on 40 occasions (see Table 9).

Overall thirteen themes, 7 a priori and 6 newly identified, representing the expression of ambivalence and cognitive dissonance were identified, 312 expressions occurred. A mean of 31.2 (SD=6.46) were expressed within each MI session. The theme expressed the most was a discrepancy between the actual and the ideal (N=47) and the theme expressed the least was inconsistent behaviour and affect (N=6).

Were Other Observations Relevant to the Process of Change but not Directly Related to Ambivalence and Cognitive Dissonance also Evident?

An additional theme not associated with the construct of ambivalence and cognitive dissonance was observed within the data set.

Inaccessibility of cognitions associated with carrying out target behaviour

Language expressing an acknowledgement or a reflection of not knowing the reasons for carrying out their target behaviour, or an inability to answer questions regarding this.

T: *What are the reasons why you do go back to it?*

I: *I don't know.*

T2: 418-419

The participant clearly states no knowledge of why they return to drinking following a period of abstinence. This indicates that such cognitions are inaccessible at this time.

C: *This time I'm finding it really, really difficult, and I don't know why. I mean normally Alison, its been really bad and I'd say to her that's it and I'll stay dry and then something, I don't know why. Something will pop up and its not problems, I've got no problems.*

T0: 408-410

It is expressed here by the participant the difficulties experienced whilst attempting to sustain improvements in their drinking behaviour. They are unaware of where these difficulties lay, feeling they have no problems.

This theme was expressed on 5 occasions within the dataset. A mean of 0.5 (SD = 0.87) were expressed within each MI session, ranging from 0-1. The expression of inaccessibility of cognitions associated with carrying out target behaviour tended not to be followed by an attempt by the clinician to bring to mind such cognitions.

A general observation of the data set can also be made. In addition to expressing inconsistent cognitions in close proximity, participants expressed inconsistent cognitions spread throughout the data set. It appeared that overall language reflecting reasons they should not carry out the target behaviour occurred more often than the reasons to continue. Cognitions supporting status quo tended to be expressed at the beginning of each MI session. This appeared to be influenced by the extent to which the clinician elicited such language by asking participants questions such as, "what is good about your drinking?" or "what do you enjoy about your drinking?" The MI sessions began by the clinician asking these questions, or by providing feedback of test results. When the latter occurred it was followed by the elicitation of cognitions supporting status quo. Once participants' cognitions regarding why they carry out their behaviour were elicited, clinicians elicited cognitions associated with negative aspects of their target behaviour. As treatment progressed, clinicians increasingly elicited language indicative of a movement towards rather than away from change. This may be expected given the focus of MI to first elicit then resolve ambivalence. Clinicians appeared to move towards resolving participants' ambivalence in the direction towards change. The first MI session was included in this analysis, due to its focus on eliciting ambivalence and beginning the process of resolving ambivalence. It is possible that some clinicians began the latter process in the direction of change, before fully eliciting and magnifying the ambivalent experience.

Does Ambivalence or Cognitive Dissonance More Adequately Capture the Processes Reflected in Client Language?

Client language representing an experience of cognitive dissonance was expressed on more occasions than that illustrative of an experience of ambivalence. 205 and 107 expressions occurred respectively. Nine cognitive dissonance themes were identified in comparison to four ambivalence themes. The theme expressed the most was a discrepancy between the actual and the ideal captured under the construct of cognitive dissonance.

As detailed in this study's literature review, the concept of cognitive dissonance is a broad theory encapsulating a wide range of inconsistent cognitions. It encapsulates not only the broader cognitions related to target behaviour and the inconsistencies between them but also the inconsistent attitudes (thoughts and feelings), which are more specifically held towards changing that behaviour, captured by the concept of ambivalence. Therefore, the four themes and 107 expressions of ambivalence which occurred can also be considered as cognitive dissonance, resulting in a total of 312 expressions and thirteen themes. It could be concluded that cognitive dissonance theory more adequately captures the processes reflected in client language than the theory of ambivalence.

The construct of ambivalence is, however, used to describe the primary process in MI, the aim being to elicit and resolve this experience. The concept of ambivalence may more adequately capture this specific process reflected in client language, given the cognitive components it encompasses and focus towards a specific attitude object.

Table 8: Frequency of the Expressions of Inconsistent Related Discomfort

	1	2	3	4	5	6	7	8	9	10	Total	Mean (S.D)
Ambivalence												
A Priori Identified Themes												
Cognitive-Cognitive Ambivalence	3	6	3	3	3	4	5	3	11	3	**44**	**4.4 (2.42)**
Affective-Affective Ambivalence	2	5	1	2	0	0	4	0	3	1	**18**	**1.8 (1.66)**
Cognitive-Affective Ambivalence	2	4	0	4	0	3	5	1	6	1	**26**	**2.6 (2.01)**
Cognition (-) Affect (+)	*2*	*2*	*0*	*3*	*0*	*3*	*3*	*1*	*3*	*1*	***18***	***1.8 (1.17)***
Cognition (+) Affect (-)	*1*	*2*	*0*	*1*	*0*	*1*	*2*	*0*	*3*	*0*	***10***	***1.0 (1.0))***
Newly Developed Themes												
Magnified Ambivalence	4	1	1	0	0	5	4	3	1	0	**19**	**1.9 (1.83)**
Cognitive Dissonance												
A Priori Identified Themes												
Inconsistent Behaviour	0	1	0	0	1	2	2	0	1	1	**8**	**0.8 (0.75)**
Inconsistent Behaviour and Cognitions	0	4	1	2	0	3	1	4	3	1	**19**	**1.9 (1.45)**
Inconsistent Behaviour and Affect	1	2	0	0	0	1	0	0	1	1	**6**	**0.6 (0.66)**
Discrepancy Between the Actual and the Ideal	3	8	6	7	2	4	11	1	6	1	**49**	**4.9 (3.11)**
Newly Developed Themes												
Importance of The Self	3	1	1	4	4	0	4	0	4	1	**22**	**2.2 (1.66)**

	1	2	3	4	5	6	7	8	9	10	Total	Mean (S.D)
Belief Disconfirmation	3	4	0	3	1	0	3	4	1	2	**21**	**2.1 (1.45)**
Magnified Cognitive Dissonance	3	3	0	4	1	0	1	0	3	1	**15**	**1.5 (1.36)**
Total	**21**	**36**	**13**	**25**	**11**	**22**	**39**	**16**	**37**	**12**	**232**	**232**
Mean (S.D)	**2.1 (1.3)**	**3.6 (2.5)**	**1.3 (1.79)**	**2.5 (2.11)**	**1.1 (1.37)**	**2.2 (1.77)**	**3.9 (2.84)**	**1.6 (1.62)**	**3.7 (3.07)**	**1.2 (0.75)**	**23.2 (13.05)**	**23.2 (13.05)**

Table 9: Frequency of the Expressions of Attempts to Reduce Inconsistent Related Discomfort

	1	2	3	4	5	6	7	8	9	10	Total	Mean (S.D)
Reducing Cognitive Dissonance in the Direction Away From Change	4	9	2	3	4	1	3	1	11	2	**40**	**4 (3.19)**
Reducing Cognitive Dissonance in the Direction Towards Change	3	0	2	1	2	0	0	9	2	6	**25**	**2.5 (2.77)**
Total	**7**	**9**	**4**	**4**	**6**	**1**	**3**	**10**	**13**	**8**	**65**	**65**
Mean (S.D)	**3.5 (0.5)**	**4.5 (4.5)**	**2.0 (0.0)**	**2.0 (1.0)**	**3.0 (1.0)**	**0.5 (0.5)**	**1.5 (1.5)**	**5.0 (4.0)**	**6.5 (4.5)**	**4.0 (2.0)**	**32.5 (7.5)**	**6.5 (3.44)**

CHAPTER 5: DISCUSSION

The purpose of this chapter is to: a) summarise the findings of this study within the context of the MI and social psychology literature; b) outline its strengths and limitations; c) discuss the clinical implications of the findings; and d) outline areas for future research.

Context of Study

This study is a secondary analysis of data from a multi-centre trial evaluating the outcome of MI in the treatment of alcohol problems (UKATT, 2005). Two discrepancy-related theories have been proposed to be important in the treatment process of MI: ambivalence and cognitive dissonance. The elicitation and resolution of a person's ambivalence towards changing their target behaviour is hypothesised to have a central role in MI's effectiveness. Cognitive dissonance was previously emphasised as a key active ingredient in MI's motivational processes in the original account. More recently cognitive dissonance has been dismissed, replaced with the idea of developing a discrepancy between a person's actual and ideal. Research has not, however, examined the relative potential role of these processes as mechanisms of change within MI. The aim of this study is to investigate how ambivalence and its associated constructs are expressed in sessions of MI in the treatment of alcohol problems.

Discussion of Research Questions Within the Context of the MI and Social Psychology Literature

How are Ambivalence and Cognitive Dissonance Expressed in MI?

Application of the MI motivational process model discussed in Chapter 2 of this study to transcripts of MI sessions enabled the identification of variations in the expressions of cognitive dissonance and ambivalence in client language. The occurrence of language indicative of the three discrepancy-related theories proposed to be important in MI's change process: ambivalence, cognitive dissonance and a discrepancy between the actual and ideal were found (Miller, 1982 c.f. Mint Bulletin 2008; Miller 1983; Miller & Rollnick, 2002).

Ambivalence research concludes that the ambivalent experience can be induced when a person holds conflicting attitudes, consisting of inconsistencies either within or between its various components (Connor & Sparks, 2002; Connor & Armitage, in press). Analysis of client language revealed the occurrence of intra-component ambivalence and inter-component ambivalence. Intra-component ambivalence was illustrated through the expression of inconsistent thoughts and inconsistent feelings. Inter-component ambivalence was illustrated through the expression of inconsistent thoughts and feelings. The form of ambivalence expressed the most was cognitive-cognitive ambivalence, occurring nearly twice as often as cognitive-affective and affective-affective ambivalence. Cognitive-cognitive ambivalence was

also expressed on more occasions than all but one of the other ambivalence and cognitive themes identified. Such findings suggest clinicians tend to elicit a person's thoughts associated with a target behaviour, more so than their feelings. This may be expected, given different components of attitudes are not explicitly distinguished from one another in MI and the importance of eliciting inconsistencies in-between and within the different components of attitudes are not overtly emphasised (Miller & Rollnick, 2002).

Client language illustrative of an experience of cognitive-affective ambivalence evoked particular interest. Research indicates that when cognitive-affective ambivalence is experienced, affect tends to override thoughts in determining overall attitudes and behaviour, particularly when affect is positive (Lavine *et al.*, 1998). Language reflecting a positive feeling associated with a target behaviour together with a negative cognition occurred nearly twice as often as language consisting of a negative feeling associated with a target behaviour and a positive cognition. It is expected that participant's positive feelings associated with a target behaviour, within the context of their cognitive-ambivalent experience, influences their overall attitudes to support the status quo, reducing the possibility of behaviour change. These findings strengthen recommendations that researchers and clinicians identify cognitive-affective ambivalence, and assess the influence of cognitive and affective components of attitudes on commitment language and behavioural outcome (Leffingwell *et al.*, 2006).

The three inter-component cognitive inconsistencies (inconsistent behaviour and cognitions, inconsistent behaviour and affect and a discrepancy between the actual and the ideal) originally associated with the theory of cognitive dissonance and the processes of MI (Miller, 1982; Mint Bulletin, 2008), were reflected in client language. Participants expressed a discrepancy between their actual and ideal more than any other type of cognitive inconsistency, and indeed any other theme encapsulated under cognitive dissonance and ambivalence theory. The growing emphasis on the importance of eliciting a person's discrepancy between their present state of affairs and broader goals and values as an active ingredient in MI's motivational processes (Miller & Rollnick 2002) is substantiated. Miller and Rollnick's move to dismiss the importance of the role of cognitive dissonance in MI, proposing that it is merely a person's discrepancy between their actual and ideal that is important is questionable, however. The occurrence of participant language describing present state of affairs in close proximity to inconsistent broader goals and values, infers cognitions may be simultaneously accessible to the client. Findings from the cognitive dissonance literature (Newby-Clark *et al.*, 2002), illustrating that the simultaneous accessibility of inconsistent cognitions increases the probability that inconsistent-related discomfort will be induced, suggests individuals attending MI experience not only a discrepancy between their actual and ideal, but cognitive dissonance associated with such discrepancies.

In the original description of MI (Miller, 1982 c.f. Mint Bulletin, 2008) it was proposed that developing a discrepancy between a person's behaviour and other cognitions was central to

MI's effectiveness. Given that target behaviour is central to therapist and client dialogue, it could be argued that any client language consisting of cognitions supporting behaviour change are indicative of an experience of inconsistent-related discomfort within the client. Social psychology research (Newby-Clark *et al.*, 2002) suggests a method to reduce cognitive dissonance is to distract oneself from one or both conflicting cognitions. It is possible that clients expressing cognitions inconsistent to their behaviour were distracting themselves from specific details of that behaviour. Inconsistent cognitions may not be simultaneously accessible and a dissonant state not aroused. Language reflecting thoughts and feelings associated with a target behaviour were only coded as cognitive dissonance when they occurred in close proximity to language detailing specific aspects of behaviour. This may explain the limited number of times that inconsistent behaviour and affect and inconsistent behaviour and thoughts were expressed. This may not be a true reflection of the extent to which these latter forms of cognitive dissonance are experienced in sessions of MI and may require a different approach to the investigation. According to dissonance theory, inconsistencies also exist within behaviours (Festinger, 1957). A person may choose to act a certain way on one occasion and within a short period of time choose to act in a way which is inconsistent with previous behaviour. Language representing the simultaneous awareness of inconsistent behaviour occurred on very few occasions.

As cognitive dissonance theory underwent revision and development, researchers became more aware of the importance the self plays in the dissonance experience (Cooper, 2007). Three self-related theories were developed: self-affirmation, self-consistency and new look theory. These share the notion that when a person develops a discrepancy between their behaviour and their view of themselves as moral and integral, or their self standards, inconsistent-related discomfort is induced. Self-discrepancy theory (Higgins, 1987), a concept closely related to cognitive dissonance, proposes a person can hold inconsistent cognitions towards oneself inducing variations of negative affect.

This study supports the occurrence of such self-related discrepancies, illustrating how their awareness can be demonstrated through language. Participants did not directly refer to, or acknowledge threats to their self integrity, however they described feeling disgusted, disappointed or unhappy with themselves. They also described the person they are when carrying out their behaviour, in close proximity to descriptions of their personality when not carrying out their target behaviour. Inconsistencies often existed between these two personality states. On occasion, participants directly acknowledged a distinct discrepancy in their personality state, dependent on their behaviour, one participant referring to themselves as Jekyll and Hyde. These patterns in client language further strengthen the hypothesis in Chapter 2, that in addition to eliciting ambivalence and a discrepancy between the actual and ideal, the availability and awareness of threats to self integrity and self-discrepancies should be increased. Although it did not occur in this study, the importance of the self could also be integrated into

conversations regarding a person's discrepancies between their present state of affairs and broader goals and values. Explicit discussions surrounding how the importance of the self influences discrepancies between a person's actual and ideal could improve MI's processes and effectiveness. MI and self-discrepancy literatures both utilise the term, "discrepancy between the actual and ideal". Higgins, (1987) outlines three self-discrepancy states, one of which can be described as a discrepancy between who a person is and who they would like to be, referred to as their actual and ideal. MI uses similar language to describe a discrepancy between a person's state of affairs and their broader goals and values. The striking similarity in the language used across MI and self-discrepancy theory emphasises the importance the self plays in aiding the development of a person's discrepancy between their current situation and broader goals.

A close look at the language participants expressed following the provision of feedback by the therapist supports findings under the belief disconfirmation paradigm (Festinger *et al.*, 1956) in the cognitive dissonance literature. This paradigm indicates that when new and conflicting cognitions are made available, inconsistent-related discomfort is induced. Clients frequently expressed shock and surprise in response to feedback of test results. They also reflected on negative feelings associated with hearing such information. The belief disconfirmation paradigm indicates that when such language is expressed after feedback psychological tension or discomfort is induced. Patterns in client language suggest cognitive dissonance theory can be utilised to understand the motivational processes occurring in variations of MI treatment, such as those incorporating feedback.

Support is also provided for the argument in the cognitive dissonance literature that inconsistent-related discomfort is followed by an inherent motivational drive to achieve cognitive consistency (Elliott & Devine, 1994). Miller's (1982) original proposition that clients attending MI use methods such as denial and low self-efficacy to reduce dissonance in the direction away from change is also substantiated. Evidence is provided confirming the proposal in Chapter 2 that Miller and Rollnick (2002) rejected the role of cognitive dissonance in MI too soon. In particular, the evidence provided contradicts Miller and Rollnick's rationale for dismissing cognitive dissonance; to avoid the motivational drive to achieve cognitive consistency central to dissonance theory.

Methods identified to reduce inconsistent-related discomfort in the cognitive dissonance literature such as distraction, trivialisation and low self-efficacy (Harmon-Mill & Jones, 1999), are present in client language in the current study. On occasion, client's expressed language was representative of an attempt to minimise or distract oneself from the problem or an inability to change their behaviour, indicative of a movement in the direction away from change. It was also possible to code language indicative of a movement towards behaviour change. This consisted of either a clear acknowledgement of an alteration in how one appraises behaviour, reflecting an awareness of reducing dissonance away from change, or language indicating a

recent or in-session reduction in the use of techniques such as distraction. The fact that attempts to ameliorate inconsistent-related discomfort in the direction away from change were identified nearly twice as often as attempts to reduce discomfort in the direction towards change, suggests participants' were overall moving towards a position of consistency, through changing cognitions rather than behaviour.

An attempt to reduce dissonance was only coded when a very clear example of language illustrative of a movement towards or away from change was evident. Festinger's (1957) reduction of dissonance formula proposes that consistency can be achieved by increasing the number of consonant cognitions and decreasing their discrepancy. This infers that language representing a movement towards or away from change, termed "change talk" and "sustain talk," in the MISC 2.1 (Miller *et al.*, 2008) could be classified as language indicative of attempts to achieve consistency. The importance or strength of cognitions associated with the target behaviour, also coded in the MISC 2.1, could be categorised as attempts to reduce dissonance. Perhaps the two sub-categories of the MISC 2.1 most evident for coding attempts to achieve consistency are Ability and Taking Steps. A person's level of self-efficacy regarding their ability to change their behaviour has been recognised for its influence on dissonance reduction (Condiotte & Lichtenstein, 1981). Taking Steps includes language illustrative of specific aspects within client's behaviour representing a movement either towards or away from change. Such language could be interpreted as attempts by participants to achieve consistency through changing their behaviour to support status quo or change.

The current study also found evidence supporting the argument that the greater the magnitude of dissonance, the greater the motivational drive to reduce discomfort (Festinger, 1957). This further substantiates the occurrence of dissonance reduction in MI, particularly in the direction away from change. The two participants who expressed language reflecting an attempt to reduce dissonance away from change most frequently, also expressed language indicative of an experience of inconsistent-related discomfort on many occasions. The arousal of a motivational drive to achieve consistency within clients attending MI, predominantly in the direction away from change, is further substantiated as is the proposal in the belief disconfirmation paradigm that when new and conflicting information is added to a person's repertoire, a drive is experienced to reduce the discomfort this causes. Provision of new and conflicting information by the clinician is frequently followed by language representing an attempt to reduce dissonance in the direction away from change.

On occasion, inconsistent cognitions were expressed in coinciding utterances. The simultaneous accessibility of inconsistent cognitions and evaluations are measured by assessing the length of time it takes a person to respond to unipolar evaluation questionnaires (Bassili, 1996). The simultaneous accessibility of inconsistent evaluations is associated with higher potential ambivalence (Bassili, 1998) and has been found to moderate the relationship between potential and felt ambivalence (Newby-Clark *et al.*, 2002). The simultaneous accessibility of

inconsistent cognitions is therefore expected to increase the closer the proximity of cognitions. When inconsistent cognitions are expressed in coinciding utterances participants magnitude of inconsistent-related discomfort increased.

Expressions by participants of a direct acknowledgement of feeling conflicted, strengthens the conclusion that individuals attending MI experience ambivalence and cognitive dissonance. Inconsistent cognitions occurring in close proximity to one another are similar to measures of potential ambivalence (Kaplan, 1972) and measures of simultaneous accessibility (Bassili, 1996), in that conclusions that inconsistent-related discomfort is experienced are only hypothesised, as grounded in relevant theory. Similar to measures of felt ambivalence (Priester & Petty, 1996), direct acknowledgements of feeling conflicted clearly indicate that participants intuitively recognise a cognitive dissonance or ambivalence state within themselves.

As MI sessions progressed the proximity of inconsistent cognitions associated with a target behaviour tended to increase in proximity to one another. Direct acknowledgements of feeling conflicted also occurred in the latter half of the MI sessions. This suggests that these experiences are magnified as the first session of MI progresses, providing further support to the hypothesis that MI elicits ambivalence and cognitive dissonance.

Ambivalence and cognitive dissonance theories from social psychology have much to offer researchers and clinicians developing and delivering MI. The breadth and depth of these theories, their conclusions and research methodologies, have the potential to expand current understanding of the motivational processes occurring within MI, and ultimately improving its effectiveness.

Are There Other Processes Reflected in Client Language not Associated with ambivalence or Cognitive Dissonance?

As the researcher analysed client language, other patterns not associated with ambivalence or cognitive dissonance were evident. In general, it appeared that clinicians specifically elicited clients' cognitions associated with status quo at the beginning of each session, asking questions such as, "what do you like about your drinking?" They quickly moved on to focusing upon eliciting cognitions associated with behaviour change, asking questions such as "what do you dislike about your drinking?" It could be argued this is an expected pattern, given MI's focus on resolving ambivalence in a way which results in commitment language and, ultimately, behaviour change. It is possible clinicians tended to move towards eliciting change and commitment language, without fully magnifying the ambivalent experience. It was also evident on several occasions that participants expressed being unaware of their reasons for carrying out their behaviour. Clinicians do not appear to focus their attempts upon increasing client's awareness and accessibility of such cognitions. These patterns in clinician and client language may be reflective of the limited extent to which

clinicians utilise MI's techniques of eliciting ambivalence and creating conflict, as measured by the UKATT process rating scale (UKATT, 2008).

The extent to which clinicians focus upon eliciting cognitions supporting status quo, and subsequently, eliciting ambivalence associated with changing target behaviour continues to be debated (Rose, 2008; Amrhein *et al.*, 2003). Ambivalence research indicating the higher the ambivalent state, the less stable and more pliable attitudes are (Connor & Armitage, in press), and cognitive dissonance research, concluding the more intense the magnitude of inconsistent-related discomfort the greater the motivational drive to achieve cognitive consistency (Festinger, 1957), suggests clinicians should ensure cognitions associated with changing and not changing behaviour are elicited.

A further area of social psychology literature with potential to advance understanding of what makes MI effective is decision-making (Ryder, 1999). Janis and Mann (1977) distinguish between hypo vigilant and vigilant decision-making. The latter is associated with behavioural outcomes which are maintained. Vigilant decision making entails a thorough consideration of the advantages and disadvantages of the range of options available. This is consistent with the idea behind MI of weighing pros and cons and exploring ambivalence. It may indicate that strength of commitment language and behavioural outcomes would be more positive if a thorough consideration of all options were considered.

Does Ambivalence or Cognitive Dissonance More Adequately Capture the Processes Reflected in Client Language?

Consideration of this research question in the results section led to the conclusion that cognitive dissonance more adequately captures the processes reflected in client language. This conclusion was reached for two reasons: a) cognitive dissonance is a broad theory encapsulating a wide range of inconsistent cognitions (Festinger, 1957). Inconsistent attitudes associated with changing the target behaviour captured in ambivalence theory (Connor & Armitage, in press) can also be considered under dissonance theory; and b) cognitive dissonance is reflected in client language more than twice as often as those captured under ambivalence.

It is evident that cognitive dissonance theory has a lot to offer clinicians and researchers delivering and developing MI. The idea that client language analysed within a cognitive dissonance framework provides useful insight into the motivational processes occurring in MI is also supported. It is important not to minimise the importance of the ambivalence construct and experience within sessions of MI, however. The primary goal of MI is to elicit and resolve a person's ambivalence associated with changing a target behaviour (Miller & Rollnick, 2002). Although cognitive dissonance theory captures this process, the use of ambivalence enables the description of a more specific discrepancy-related experience within MI, providing guidance for clinicians eliciting and researchers investigating this particular process.

Strengths and Limitations

This study has many methodological strengths and weaknesses. Consideration of its merits and limitations are discussed within the context of the study's design and sampling procedure.

Study Design

Interaction between therapist and client predominantly occurs through the medium of language. Russell (1989) highlights the key role language plays in the delivery and potential effectiveness of "talking therapy", strongly advocating the examination of language as a method for investigating therapeutic processes. A potential limitation of the investigation of language in any context is the inability to conclude that propositions represent truth or fact, unless their content can be scientifically and objectively verified or falsified (Russell, 1989). The semantic and latent levels of analysis of client's language in this study, underpinned by social psychology theory, cannot be assumed to be a true reflection of the ambivalence and cognitive dissonance experience within the client. It is recognised, however, that what is important about language is its function. It allows individuals to express and perform, communicate their inner world, constitute public space whereby communication can occur between individuals and help people get in touch with their human concerns. Reference and truth become secondary. Analysis of language as a process research methodology enables examination of client and therapist dialogue and the communication between them, which can be grounded in relevant theory.

Thematic analysis was the chosen qualitative methodology for this project due to its flexibility in approach, and ability to be adapted to meet the needs of the research question. The deductive method of analysis utilised in this study meant that the examination of data was firmly grounded in the theories underpinning the research questions: cognitive dissonance and ambivalence. Patterns in the data not associated with such theories were also identified using a more data driven approach. A more thorough inductive analysis may have enabled the identification of other change processes evident in client language, however.

Braun and Clarke (2006) outline various disadvantages of thematic analyses as a qualitative approach. Unlike other qualitative approaches such as narrative analysis (Murray, 2003), thematic analysis does not enable a sense of continuity and contradiction to any one individual account obtained. The contradictions and consistencies with the data set in this study were not outlined. The researcher was also unable to make claims about language use and functionality of talk, which could be obtained if alternative qualitative methods, such as discourse analysis (Burman and Parker, 1993) and conversational analysis (Hutchby and Wooffitt, 1998) were utilised. Braun and Clarke argue that a rigorous thematic approach produces an insightful analysis as long as a method is chosen which relates to the research questions.

The researcher attempted to conduct a well designed thematic analysis as guided by Braun and Clarke (2006) and Boyatis (1998); weaknesses in the investigation are identified, however. Although the researcher frequently checked the data extracts with the entire data set, a more thorough test-retest analysis was not completed. Due to the complexity of the theoretical knowledge required prior to conducting the investigation and the time limits of the study, inter-rater reliability was not obtained. Methods were taken to increase the reliability and validity of the findings. Prior to analysis the researcher gained an in-depth understanding of the theories underpinning the study and attempted to ensure that the analysis was thorough but not over zealous. Consideration was given to how the researcher's mood and style influenced the study's completion. Attempts were made to minimise the negative impact of the researcher's personal characteristics on data analysis. It is recognised that the researcher's personal experiences may have, at times, impacted on the quality of the study.

Two additional limitations are identified: the strength of client language is not measured and non verbal communication is not coded. Amrhein *et al.*, (2003) found the strength of commitment language rather than its frequency of occurrence to predict behavioural outcome. As the strength of inconsistent cognitions, or what may be considered within the context of cognitive dissonance as the importance, presumably influences the magnitude of inconsistent-related discomfort (Festinger, 1957), it would be expected that information regarding the strength of inconsistent cognitions would provide a deeper insight into the expression of ambivalence and cognitive dissonance in MI. In addition to coding the strength of client language the MISC 2.1 (Miller *et al.*, 2008) emphasises the importance of taking into consideration a client's non verbal behaviours when analysing client language. Non-verbal behaviour such as, tone, inclination, facial expressions and gestures have been recognised for their ability to enhance understanding of psychotherapeutic processes (Wiener, Budney, Wood, & Russell, 1989). Consideration of client non-verbal behaviours in this study could have enabled insight into how such communication relates to impact the interpretation of ambivalent cognitive dissonant experiences.

Sample

The UKATT study (UKATT, 2005) from which the transcripts used in the secondary analysis were taken focused upon the delivery of a variation of MI termed MET to individuals experiencing alcohol problems. The findings cannot be assumed to be generalisable to the treatment of other behavioural/life-style problems, or to the delivery of a more pure form of MI which does not include feedback. As discussed in the methodology section the first of three MET sessions where chosen for analysis due to the expectation that more examples of discrepancy-related processes will be reflected in client language. It would be interesting to ascertain whether the expression of cognitive dissonance and ambivalence would differ in form and prevalence in the second and third MET sessions.

Treatment integrity, as measured by the UKATT process rating scale (UKATT, 2008), varied. A sampling procedure, whereby treatment integrity was high, would have enabled firmer conclusions regarding whether language expressed was due to specific aspects of MET. A comparative analysis investigating the effect of either treatment integrity (high or low) or outcome (good or poor), would also have been of interest.

Evidence from the social psychology literature, suggesting individual characteristics, such as cultural background (Heine & Lehman, 1997) influence the experience of inconsistent-related discomfort, indicates results may have varied if individuals from a non-Caucasian heritage were included in this study.

Clinical Implications

The clinical implications of the studies findings are outlined:

- In addition to considering the elicitation and resolution of a person's ambivalence towards changing a target behaviour and the discrepancy between their actual and ideal, researchers and clinicians should integrate cognitive dissonance theory into MI research and practice.
- The aim of clinicians delivering MI should be to use its style, principles and techniques to increase client's simultaneous accessibility of various forms of inconsistent cognitions associated with target behaviour.
- When eliciting a person's ambivalence towards changing their target behaviour clinicians should focus upon increasing client's awareness of the affective and cognitive components of their attitude and, subsequently, cognitive-affective ambivalence. The weight of the negative feelings associated with a target behaviour should be amplified, increasing the probability of behaviour change. The cognitive and affective content of clinician's language appears to be an important factor in the elicitation of different components of attitudes. If affective language, such as, "what worries you about your drinking?" are utilised on more occasions, it would be more likely that the positive and negative affects associated with carrying out target behaviour would be brought into client's awareness.
- As proposed by Miller and Rollnick (2002), the development of a discrepancy between a person's present state of affairs and their broader goals and values appears to be an important motivational process within MI. Eliciting the expression of such inconsistencies in close proximity to one another appears to be important, not only in magnifying discrepancies between the actual and ideal, but producing a condition whereby dissonance is induced. The presence of a dissonance state within the client increases the probability that an attempt to achieve consistency will be made, which can be manipulated by the clinician to support behaviour change.

- Evidence of cognitive dissonance in client language highlights the importance of increasing the availability and awareness of the impact that a client's target behaviour has on their self integrity and self discrepancies. Discussions surrounding how the importance of the self influences discrepancies between the person one is and the person they would like to be may also help improve the processes and effectiveness of MI.
- When providing feedback in MI sessions clinicians should make note of client responses and react appropriately. When client's responses are illustrative of shock, surprise or negative affect they should be recognised and particular attention paid to language reflective of attempts to reduce inconsistent-related discomfort in the direction away from change. Draycott and Dabbs (1998) illustrate how MI's principles can be used to reinforce attempts made by the client to reduce their cognitive dissonance in the direction of change, and respond to attempts made to reduce dissonance in the direction away from change.

Future Research Questions

MI is proposed to work through eliciting and resolving discrepancy-related processes, increasing commitment language and resulting in behaviour change (Miller & Rollnick, 2002). Research has supported the positive relationship between change talk, commitment talk and behaviour change (Amrhein *et al.*, 2003). The relationship between discrepancy-related processes and these other stages of change have not been investigated. Examination of the relationship between client language illustrative of ambivalence and cognitive dissonance, commitment language and behavioural outcomes should be investigated. Such research could further substantiate the hypothesis that discrepancy-related processes are key active ingredients in MI. Research investigating the relationship between treatment integrity and the expression of discrepancy-related processes in MI is also required. The relationship, or more specifically, the sequential relationship, between individual techniques and principles of MI, as reflected in clinician language and the expression of ambivalence and cognitive dissonance in client language would also be insightful.

Research is required which reliably distinguishes between the affective and cognitive content associated with a target behaviour. Investigation of the relationship between the affective content of client language, particularly that which supports status quo, with the frequency and strength of commitment language and behavioural outcome is required. Such research could help confirm or deny conclusions in the social psychology literature that the affective component of attitudes, within the context of cognitive affective ambivalence, overrides thoughts in determining overall attitudes and behaviours and the occurrence of various forms of ambivalence in MI.

McNally *et al.*, (2006) asked participants attending MI to objectively rate their cognitive dissonance experience and discrepancy between their actual and ideal. A similar investigation, also including subjective ambivalence measures, asking a range of participants receiving MI in a clinical setting, rather than undergraduate students would provide a more quantitative approach to expanding understanding of MI discrepancy-related processes. A comparison of quantitative analyses, asking participants to subjectively name their discrepancy-related experiences, and qualitative analyses investigating patterns in client language would be beneficial.

Summary and Conclusions

Consideration of the shared and distinct attributes of ambivalence and cognitive dissonance theories within the context of MI illustrate how both these discrepancy-related concepts expand current understanding of the motivational processes occurring in MI. Application of the motivational process model outlined in chapter 2 to transcripts of MI, demonstrates a range of ways ambivalence and cognitive dissonance are expressed in client language. Various forms of inconsistent cognitions inherent in both theories occurring in close proximity to one another infer an experience of inconsistent-related discomfort within the client. A theoretical analysis of the application of cognitive dissonance to the processes of MI and the theory-led examination of client language indicate that cognitive dissonance, in addition to ambivalence, has much to offer in understanding how motivation is influenced during MI. On the basis of the evidence presented here, Miller and Rollnick's (2002) rejection of the occurrence of cognitive dissonance in MI is questionable. Language reflecting attempts to reduce inconsistent-related discomfort also provides evidence contradicting Miller & Rollnick's rationale for dismissing cognitive dissonance; to avoid a motivational drive to achieve cognitive consistency.

Consideration of the breadth of cognitive dissonance theory, in addition to the extent to which it is prevalent in client language, illustrates that in addition to ambivalence, cognitive dissonance has much to offer current understanding of the motivational processes of MI. Analysis of client language as a method for investigating MI's active ingredients provides information regarding patterns in client language which clinicians can make note of, understand within the context of ambivalence and cognitive dissonance theory, and respond to appropriately. This study highlights the importance of narrowing the gap between the fields of motivational interviewing and social psychology and suggests that this may be mutually beneficial.

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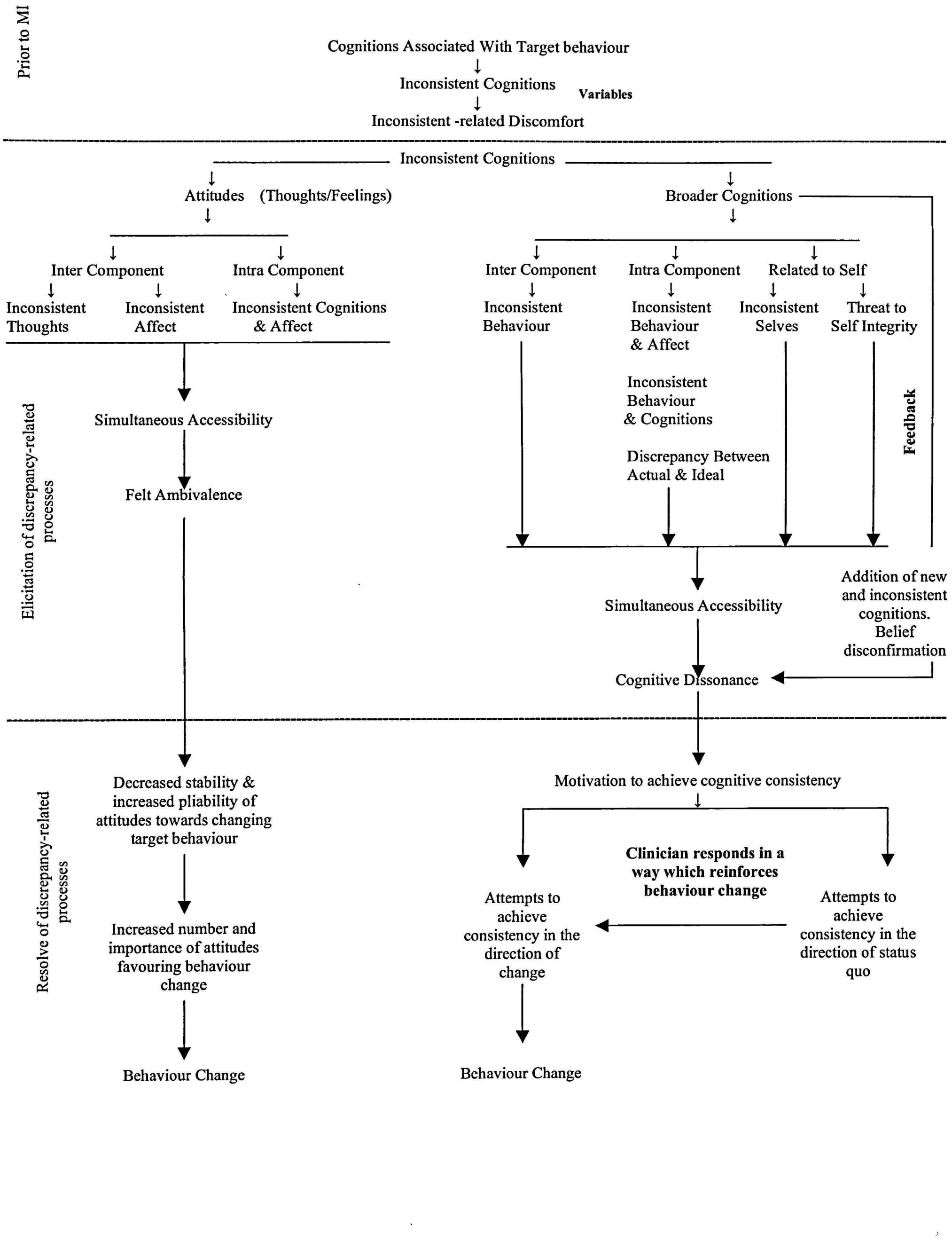
APPENDICIES

Appendix 1: Motivational Processes Occurring In Effective MI



Appendix 2: Permission Letter from the Principal Investigators of the UKAT Trial

To whom it may concern

This is to confirm that the Principal Investigators of the UK Alcohol Treatment Trial give consent for Krissy Abercrombie to have access to video recordings of treatment sessions from the trial for the purpose of developing and testing a new rating method, and that this is in line with the consent obtained from clients during the study.

The Principal Investigators also give consent for her to have access to treatment process rating and outcome data from the trial.

Gillian Tober
Principal Investigator
UK Alcohol Treatment Trial
Honorary Consultant in Addiction Psychology
Leeds Mental Health NHS Teaching Trust
12/01/2007

Appendix 3: UKATT Participant Consent Form

I agree to take part in the research comparing two forms of help for stopping or reducing drinking.

The research has been explained to me. I understand that I will be offered one of two forms of help and that I will be required to complete some further questionnaires during the therapy and to attend follow-up appointments. I also understand that, with my consent, someone (or more than one) who knows me well may be involved in meetings with the therapist.

I understand that any personal information I give in this research project will be kept strictly confidential. I understand that this information will be used only in combination with information from many other people so that I cannot be identified.

I understand that, with my consent, the member of my family or other person who knows me well whom I have suggested, may be contacted for further information of my progress after the end of the therapy. I understand that any information from this other individual will be kept strictly confidential. I also understand that any other contact names and addresses I have supplied will be used purely for establishing my whereabouts during the follow-up period and my involvement in this trial will not be revealed to them.

I agree to video recordings of my sessions being used for quality control and teaching purposes, and for future research. I understand that I will not be seen in the video but my voice will be heard on the recording. I understand that by putting a cross in the appropriate box below these tapes will be destroyed at the end of the trial.

I know that I can ask questions about the research now or at any stage, and that I can choose to withdraw from the research at any time without this affecting the quality of help I receive.

I have been given a list of the names and telephone numbers of those responsible for this research, including the name of a manager to whom I should address any complaint or grievance that I might have.

I require that all video recordings of my sessions be destroyed at the end of the trial ☐

Name ..... Assessors Name.....

Signature ..... Signature.....

Date .....

Top Floor
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Chairman: Professor Alan C Roberts

OBE TD DL MPhil PhD DSc LLD FLS CBiol FIBiol

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13 March 2007

Miss Kristine Abercrombie
Psychologist in Clinical Training
Programmes in clinical psychology
Academic unit of psychiatry and behavioural sciences
15 Hyde Terrace
Leeds
LS2 9LT

Dear Miss Abercrombie

Full title of study: **The expression of ambivalence in Motivational Interviewing: an exploratory study**

REC reference number: **07/Q1202/10**

Thank you for your letter of 05 March 2007, responding to the Committee's request for further information on the above research and submitting revised documentation.

The further information has been considered on behalf of the Committee by the Chair.

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation.

Ethical review of research sites

The Committee has not yet been notified of the outcome of any site-specific assessment (SSA) for the research site(s) taking part in this study. The favourable opinion does not therefore apply to any site at present. We will write to you again as soon as one Research Ethics Committee has notified the outcome of a SSA. In the meantime no study procedures should be initiated at sites requiring SSA.

Conditions of approval

The favourable opinion is given provided that you comply with the conditions set out in the attached document. You are advised to study the conditions carefully.

Approved documents

The final list of documents reviewed and approved by the Committee is as follows:

Document	*Version*	*Date*
Application	1	12 January 2007
Investigator CV		
Protocol	1	18 January 2007
Covering Letter		12 January 2007
Letter from Sponsor		23 January 2007
Compensation Arrangements	1	23 January 2007
Response to Request for Further Information		05 March 2007
Information Sheet for Trainee in Clinical Psychology Research	1	18 January 2007
Coding Framework	1	18 January 2007
Consent to view video recordings and access to data from Leeds Addiction Unit	1	
Prior Consent Form to use video tape		

R&D approval

The study should not commence at any NHS site until the local Principal Investigator has obtained final approval from the R&D office for the relevant NHS care organisation.

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

07/Q1202/10 **Please quote this number on all correspondence**

With the Committee's best wishes for the success of this project
Yours sincerely

Professor A Roberts
Chairman – Bradford Research Ethics Committee

Enclosures: *Standard approval conditions*
Site approval form

Copy to: Miss Claire Skinner
University of Leeds
Faculty Grants Officer - Research Degrees Office
7.11 Worsley Building
University of Leeds
LS2 9JT

Appendix 5: Research and Development Approval

NHS

West Yorkshire

Our Ref: 2007 / 016 / L

Consortium

West Yorkshire Mental Health R&D

Research & Development Department
North Wing, St Mary's House,
St Mary's Road
Leeds LS7 3JX

E-mail: john.hiley@leedsmh.nhs.uk
Direct Line: 0113 295 2387
FAX: 0113 2952412

Miss K Abercrombie
Academic Unit of Psychiatry and Behavioural Sciences
University of Leeds
15 Hyde Terrace
Leeds
LS2 9LT

Dear Miss Abercrombie,

RE: The expression of ambivalence in motivational interviewing for alcohol misuse: an exploratory study

I am pleased to inform you that the above project has been approved by the relevant Consortium panel and we now have all the relevant documentation relating to the above research. As such your project may now begin within the Trust.

This approval is granted subject to the following conditions:

- You must comply with the terms of your ethical approval. Failure to do this will lead to permission to carry out this project being withdrawn. If you make any substantive changes to your protocol you must inform the relevant ethics committee and us immediately.
- You must comply with the Consortium's policy on project monitoring and audit.
- You must comply with the guidelines laid out in the Research Governance Framework for Health and Social Care[1]. Failure to do this could lead to permission to carry out this research being withdrawn.
- You must comply with any other relevant guidelines including the Data Protection Act, The Health and Safety Act and local Trust Policies and Guidelines.
- You must adhere to the Trust's Counter Fraud policies. If you suspect that research misconduct or fraud is taking place you must report this immediately following the instructions provided in the enclosed Counter Fraud leaflet.

- If you encounter any problems during your research you must inform your supervisor and us immediately for advice/assistance.
- Research projects will be added to the National Research Register.

Once you have finished your research you will be required to complete a Project Outcome form. This will be sent to you nearer the end date of your project (Please inform us if the expected end date of your project changes for any reason).

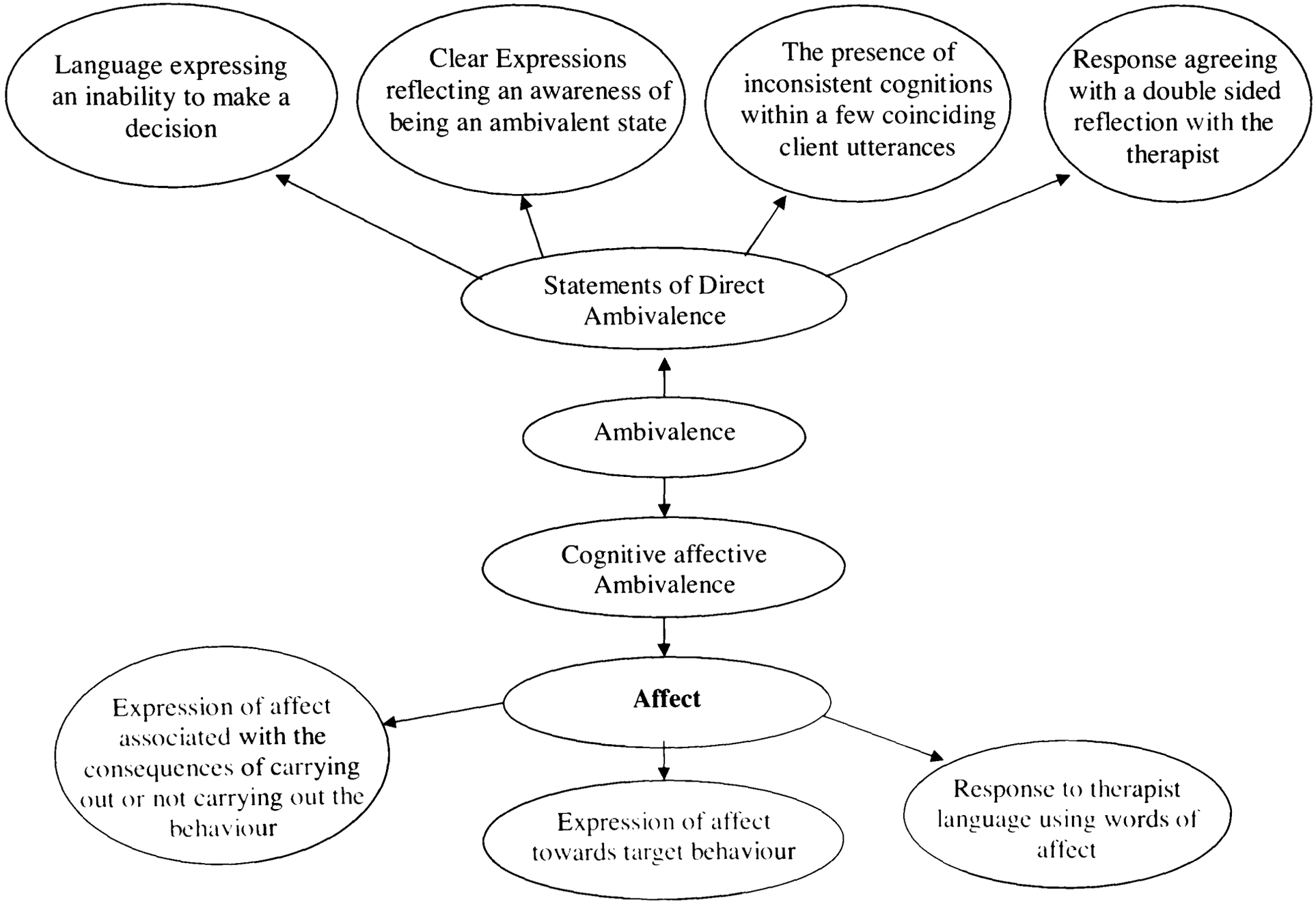
We will require a copy of your final report/peer reviewed papers or any other publications relating to this research. Finally we may also request that you provide us with written information relating to your work for dissemination to a variety of audiences including service users and carers, members of staff and members of the general public. You must provide this information on request

If you have any queries during your research please contact us at any time

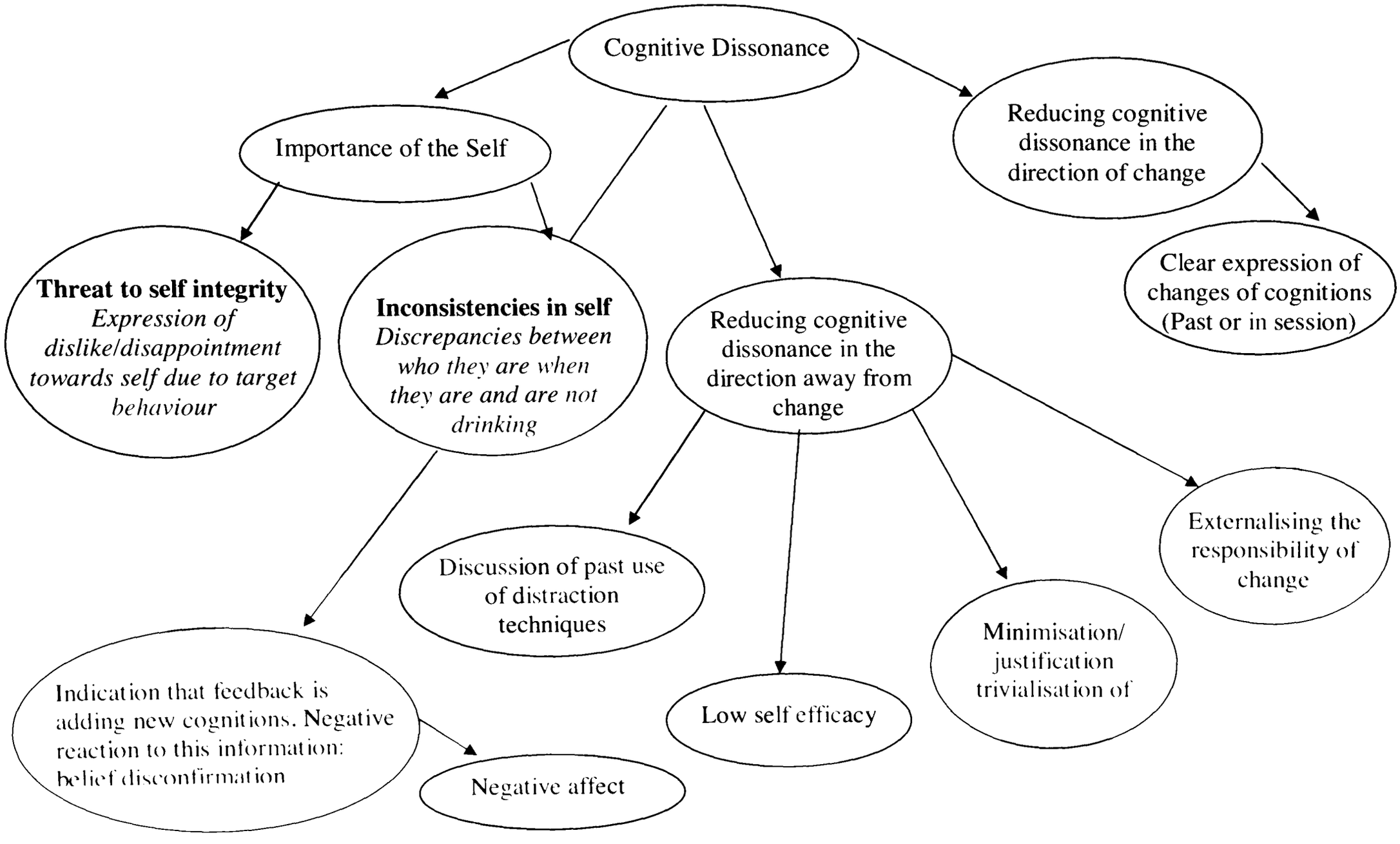
Yours sincerely

John Hiley
Research Governance & Programme Manager

Appendix 6: Candidate Thematic Map Outlining Ambivalence Themes and Sub-themes



Appendix 7: Candidate Thematic Outlining Cognitive Dissonance Themes and Sub-themes



Appendix 8: Example of Coded Data Extract

Transcript 1:

T: Okay, jed. You have gave me a lot of information there really, and I'll just quickly really some of that back. Some of the good things you said you enjoyed about your drinking was that it helped you with your mood. You were able to adjust your mood to how you felt. It brightened you up. On the other hand you realised if you had too much to drink it brought out an unpleasant side of you. Which you yourself were not happy with because of the way it made you lose you temper. You'd start to argue. Alison and yourself recognised another side you were not happy with. So although the alcohol helped you at first to brighten you up, it could very easily move to the other side and you'd find that it wouldn't actually help.

IMPORTANCE OF THE SELF
C: That's what I said, like Jekyll and hyde.

T: Yeah, so its actually made you like and Jekyll and hyde. You have like 2 different personalities or which one is it gonna be.

O: (inaudible). There is a time when you can sit down and you can talk to him and you can say.

T: yea

O: the other day when I caught him in the pub. I don't know which side it's going to be. Is it this side, or that side?

T: So its difficult for you to know were you stand really. If you are having someone where it is not very clear sometimes them selves. On the one hand you might think (Implausible). You very clearly said that you think you know if you had another binge, what will happen to you. I thin k really the fact that you had the one drink, shows you , you just had that one drink. Even that really shows you. you spent the next four days in bed.

NEG. CONSEQUENCE OF DRINKING
C: With a bucket next to me throwing up.

T: With you one drink, one drink would never had been enough for you.

NEGATIVE CONSEQUENCE OF DRINKING

C: No certainly not. But the pancreas is that bad now the alcohol...initially I was heading for controlled drinking. INITIAL DESIRE/GOAL

T; Ok, so yea.

GOAL TAICING STEPS BEFORE CHANGE

C: That was my aim wasn't it. Em, last year I started having 4 cans a day. At night not drinking during the day. I'd just sit if the evening watching tv.

C: Had a couple more, i'd have had the car outside with me.

O: I'd had a go at you.

C: if she hadn't come in. She'd stopped me of re starting that process up again.

INCONSISTENT FEELINGS.

T: so you'd...

DESIRE TO CHANGE FEELING AS'S DRINKING

C: I have to find a way of stopping that process. That process of giving into craving. Last night I said to her, you'll have to come up woth us. I'm just tearful all the time. NEG. FEELING AS'S DRINKING

T: Yeah and that's your emotions. They will be up and down, becasure you know really what you are saying is you tried to control drinking and you had that in mind when you stopped last year. And you were, you stopped. However you realized even that wasn't working cos you went from 4 to 8 and at the moment you have stopped drinking. Where do you think that leaves you now? What have you decided. DIS. ACTUAL LIFE

COGNITIVE-AFFECTIVE AMBIVALENCE

DESIRE TO CHANGE MAGNIFIED AMBIVALENCE

C: I've decided I don't want to drink at all but my body and my mind are telling me different things. I mean em. Last night, it's daft. It's a daft thing this situation. Its gonna sound daft to you. It's just a laugh anyway. She went on holiday, somewhere and bought me this homemade bottle of beer thing with a funny name on it. And I keep it in my flat as an ornament. It's full, it's real beer. It sits on the fireplace and last night I was that close to drinking it.

MINIMIZING PERCEIVED

INCONSISTENT THOUGHTS/ BEHAVIOR MAGNIFIED AMBIVALENCE

DESIRE TO DRINK / TAICING STEPS-CHANGE

O: It's never bothered you before.

C: It's never bothered me before. But this time and then, its just, it's beer. All I know is that's there, its alcohol in that bottle.

INCONSISTENT THOUGHTS/ FEELINGS

T: Yea

NEG. FEELING ASS. WITH ALCOHOL

C: Whether I, I don't like beer. I don't like bitter. I don't like mild, like Guinness. like scotch. Was that tempted last night I was walking up and down the flat for about an hour and a half. I was saying to her, I last spoke to her. We say goodnight about 10 half 10 at night, and I was pacing up and down for a good hour and half. And that was even taking me (implausible) picked up and everything. I was still so, I've really got a fight going on inside me at the moment.

DESIRE TO DRINK

T: So you're finding it difficult.

NEG FEELING ASS. DRINKING

C: I'm frightened of losing it.

INCONSISTANT FEELINGS AND COGNITIONS.

T: You know what you're saying is that you've stopped drinking and you're saying you know you need to stop drinking.

NEG. CONS. OF DRINKING

C: If I don't I'll end up dead.

T: So you're saying if you don't stop drinking you'll end up dead, that's what you're saying to me and you're recognizing that. However as much as you know that and you have to do that you're finding it difficult.

REDUCING DISS IN THE DIRECTION AWAY FROM CHANGE

LOW SELF-EFFICACY

C: this time I'm finding it really, really difficult, and I don't know why. I mean normally Alison, its been really bad and I'd say to her that's it and I'll stay dry and then something, I don't know why. Something will pop up and its not problems, I've got no problems.

INACCESSIBILITY OF COG.

DISCREPANCY BETWEEN ACTUAL AND IDEAL

T: So really even though you're more determined to make sure you don't drink..

DESIRE TO CHANGE

MAGNIFIED AMBIVALENCE

C: Somehow, if you could take the section of my brain away which is saying, come on lad take a drink it will do you the world of good, have a laugh. If you could just take that out. Cos if I'd just go out for say Sunday lunch and a Saturday, Tuesday night.

POSITIVE FEELING ASS WITH DRINKING

GOAL.

(Interruption)

REDUCING DISSCRIPANCIES CHANGE - CHANGING THOUGHTS

C: It's just stopping that but you know, and I'd find myself looking to see can I replace that with something. But I'm going down the wrong road thinking that way. I know that for a fact.