THE ROLE OF ALLIANCE IN TREATMENT OUTCOME FOR PEOPLE WITH ALCOHOL DEPENDENCE AND DEPRESSION

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ABSTRACT

Introduction: The pantheoretical variable of alliance has consistently been reported to have a moderate yet robust effect on treatment outcome. However, the relationship is less clear in the addiction field where research is more limited.

To contextualise the current research, the history and development of the alliance concept and the identification of key methodological issues are provided. Alliance research is then reviewed in two parts: that relating to the concept of alliance, followed by research concerned with the alliance-outcome relationship. This review focuses on the treatment populations under investigation in the current dissertation, those with alcohol dependence and depression, and shows how alliance differs in substance-using treatment populations. Specific areas warranting further investigation are identified. These shape the hypotheses used in the current dissertation.

Method: There were three separate components of research: the first study investigated alliance with 69 subjects who received treatment as part of the Brief Treatment Programme (BTP) which had investigated the effectiveness of Motivational Enhancement Therapy (MET) in treating mild to moderate alcohol dependence. The relationship between alliance, based on therapists’ ratings of the therapy, was examined for its association with drinking outcomes, e.g. percent days abstinent (PDA), drinks per drinking day (DDD), level of dependence and alcohol-related problems.

The second larger part of the investigation was conducted as part of the Treatment Evaluation of Alcohol and Mood (TEAM) study, a randomized controlled pharmacotherapy trial with supportive clinical case management. Therapist and client ratings were assessed using the Working Alliance Inventory (WAI) for 123 alcohol dependent and depressed client-therapist dyads at 3 weeks. Outcome data was obtained at 3 and 12 weeks (end of treatment). Drinking-related measures included PDA and DDD. Mood outcomes were scores on the Montgomery Asberg Depression Rating Scale (MADRS) and Symptom Checklist-90-item-Revised (SCL-90-R) depression subscale.
Alongside this TEAM research, a small qualitative investigation was conducted to assist in giving insight and illumination to interpretations of the quantitative data. Twelve clients were interviewed regarding their perspective of the therapeutic relationship, and what they perceived had assisted in the changes that had occurred in their mood and drinking.

**Results:** The BTP investigation found that the older the client, the greater their level of education and the later the onset of alcohol dependence, the higher the therapist-rated alliance. With regards to outcomes, alliance was positively associated with early change in drinking frequency, alcohol-related problems and the number of sessions attended. In contrast, alliance was not associated with drinking intensity, level of dependence or treatment modality. The findings suggest that when examining the alliance-outcome relationship further attention should be given to clients’ drinking profile.

The TEAM investigation found that clients rated alliance significantly higher than therapists, but client and therapist ratings were not associated with each other. Baseline motivation was the only pre-treatment client variable associated with alliance, the higher the client’s RCQ-TV score, the higher the therapist-rated alliance.

In terms of the alliance-outcome relationship, higher therapists’ ratings of alliance were significantly associated with improved mood outcomes at the end of treatment but, with one minor exception, were not related to drinking outcomes. Higher therapist-rated alliance was also significantly associated with treatment completion. In contrast, client-rated alliance was not related to mood or drinking outcomes, possibly due to a ceiling effect. Subscale analysis found that of the different components that comprise the alliance concept, the task component was most important for drinking outcomes whereas the task and goal components were equally important for mood outcomes. Controlling for early symptom change did not meaningfully alter associations between therapist alliance and mood. In contrast, the strength of associations between therapist alliance and drinking outcomes was reduced for PDA and DDD 12 week change scores, whereas the association between the therapist alliance and 12 week PDA became significant when previously this had not been the case.

Qualitative results highlighted factors that were central to the client construct of the therapeutic relationship: the therapeutic bond and engagement, advocacy and competence. Factors that clients associated with changes in their mood or drinking included within
treatment factors such as therapeutic qualities, changed thinking and behaviour, and factors external to the TEAM treatment such as external supports and alternative treatments.

**Conclusions:** Therapeutic alliance is associated with improved mood outcomes. However, alliance, as measured by the WAI, and drinking outcomes, are not related. Findings from these investigations signal the need to re-examine the concept and measurement of alliance in substance-using treatment populations, particularly with regard to drinking outcomes. Within this re-examination, findings support greater focus being given to the therapists’ role in the alliance-outcome relationship.
In 2006 I met with academic staff at the National Addiction Centre (NAC), a centre within the University of Otago, Christchurch, to discuss embarking on a PhD. For me, this decision followed more than 25 years working in mental health and social services, including clinical and teaching roles related to people with addictions and depression, and the completion of a Masters dissertation on depression 15 years earlier. My continued passion for this area has been profoundly influenced through my role as a key support person to a family member who suffered severe clinical depression over numerous decades.

When I approached staff at the NAC they were shortly to commence a randomized clinical trial called the TEAM study. This was to investigate pharmacotherapy, with supportive clinical case management, for people who had alcohol dependence and depression. Although treatment was to be provided within an Alcohol and Other Drug (AOD) environment, it was designed to respond to both co-existing disorders rather than having a singular treatment focus. I was invited to undertake my PhD research in conjunction with this larger investigation and thus refined a topic of investigation aligned with my areas of interest: the role of therapeutic alliance in treatment outcome for people with co-existing alcohol dependence and depression. Alliance is a much studied concept, however there has been comparatively less research with substance-using treatment populations. The TEAM investigation offered the opportunity to make a unique and valuable contribution to the extant literature through informing on a specific substance-using treatment population of people with co-existing alcohol dependence and depression.

There were several advantages in taking up the opportunity to investigate alliance within the TEAM study. The main aim of the TEAM study was a comparative analysis of two pharmacotherapy treatments using an empirical experimental method. To adopt an empirical method for my investigation had advantages as alliance research has predominantly been conducted in the field of psychology, and is mostly empirically based using quantitative methods. The key hypotheses that I sought to investigate arose from research using this methodology. Furthermore there was some logic in employing a similar method to investigate these questions with a co-existing population, including that it would enhance comparability of findings with alliance research. Further advantages of working with the
TEAM study were that funding granted by the Heath Research Council enabled a large sample to be recruited nationwide. This enhanced the potential power of statistical analysis and the representativeness of the cohort. The comprehensiveness and complexity of the research design, which included an expansive array of measures, and thus possible variables for investigation, was one that I would have been unlikely to achieve as an independent student researcher. Furthermore, the experience and composition of the research team of investigators made possible a depth of academic knowledge and level of insight that strengthened confidence in the robustness of the design protocols and treatment fidelity.

However, there were implications in embarking on research as part of an investigation which had broader aims and whose design had for the most part already been determined. With ethical and funding approval already in place, there were limits to the changes that could be made to accommodate my specific research. This included the frequency of timepoints that data could be gathered and the measurement tools used. Despite this, it was decided that undertaking my research investigation as part of this broader study would be a worthwhile endeavour.

As the TEAM study was a major nationwide investigation it would be some time before data was fully available. During this time it was decided that I would conduct preliminary research utilising the extant data set from the BTP, a randomized clinical trial conducted by the NAC in the late 1990s. The aim was to conduct an exploratory investigation that would yield some insight into the alliance-outcome relationship with people with mild to moderate alcohol dependence, a lesser studied treatment population and one that was similar to the population in the more major investigation in the dissertation. Since this investigation had been completed I did not have the opportunity to influence the design or measurement tools utilised. Despite any limitations this might pose the BTP study was considered a valuable opportunity whose findings might assist in developing hypotheses and guiding the analytic approach for the TEAM investigation.

In keeping with the broader TEAM and BTP investigations, the TEAM and BTP research in the current dissertation has a primarily empirical methodology using a quantitative method. The TEAM investigation also has a small qualitative research component that was added in response to unstructured feedback provided by clients when gathering quantitative data. This feedback indicated that employing a qualitative method to more fully capture the clients’ voices would add another layer or dimension to the data, thus widening and deepening the
lens through which alliance was studied in the current treatment context. Although an important part of the dissertation, the scope of this qualitative research is not sufficient to justify the TEAM investigation in the current dissertation being considered mixed method.

In 2007 when I commenced this dissertation I had young children, aging parents and part-time employment and so it was never my intention that I would complete my PhD within a short time frame. This has held true. Events that occurred along the way prolonged this study longer than I would have ever anticipated. This included ongoing age-related illnesses suffered by my parents. Sadly, they passed away within a short period of each other. On 4 September 2010, very shortly after the loss of my father, Christchurch, the city where I was born and live with my family, suffered a major earthquake, followed by many thousands of aftershocks, including the devastating earthquake on 22 February 2011. These major seismic events resulted in the loss of most of the city centre, closure of schools, and had devastating consequences for my city and its people.

Christchurch was the city hosting the TEAM investigation and these events had a significant impact on my research. The city was placed under a state of emergency. The TEAM headquarters and Christchurch Clinical Research Unit were located within what was deemed a red-zone, i.e. off limits except to restricted personnel, e.g. military, police, rescue teams. Thus it was inaccessible for several months until this zoning condition was removed. Subsequent earthquakes and issues concerning safety have meant further interruptions, as a number of times the building needed to be evacuated, and could not be inhabited or accessed for weeks at a time. These events interrupted recruitment, with the focus being on ensuring continuity of the treatment process and data collection for clients currently in the study. Undoubtedly these major events prolonged the time between when the study was conceived, implemented and data collection completed.

Notwithstanding all these events, throughout the process of completing my PhD I have been fortunate to have been able to present research findings at national and international conferences and to have had research published (refer list of PhD outputs, page xx). And finally, through the support of many people, I have completed this dissertation. My children are somewhat older and our city bears many scars, both visible and those that the eye cannot see. While my parents are no longer with me, I know they would be proud.
ACKNOWLEDGEMENTS

The completion of this PhD has been a long journey and one which would not have been possible without the support and assistance provided by many people.

First and foremost I would like to thank my family. My partner Tony has been my anchor. He has ceaselessly provided me with emotional support through his patience, encouragement and love. In practical terms, there have been many times when he has willingly fulfilled more than his share of domestic tasks and child care. He was also a wonderful proofreader. I would like to thank my children, Xavier and Clara, for their love, understanding and support. For a substantial part of their childhood they had a mother who was undertaking a PhD. In the latter stages, this meant that I was less available for them than we probably all wanted. I am forever grateful to my parents, Evelyn and Walter, and sisters, Evelyn and Anne-Marie, for always being there for me and for believing in my abilities.

I would like to acknowledge and thank all those involved with the Brief Treatment Programme and the Treatment Evaluation of Alcohol and Mood. This includes the staff at the National Addiction Centre. The availability of data is a result of their hard work and dedication in developing the research, accessing funding, recruiting participants, and in the on-going management of the treatment and research process. With regards to the TEAM study, of note are Professor Doug Sellman and Associate Professor Simon Adamson for ensuring this research proposal came to fruition and was well managed. I very much appreciated and thank Dr Marie Ditchburn, the TEAM research co-ordinator, for her relentless dedication to the recruitment of participants and collection of good quality data. I would also like to acknowledge the Health Research Council of NZ for the provision of funding for both these studies.

I would like to thank the therapists in the BTP study and the TEAM research clinicians throughout NZ who were involved in the study. In addition to busy and demanding clinical roles, they gave their time and enthusiasm to these investigations. Their commitment to this research and to their clients also contributed to good retention rates and high quality data. I would like to acknowledge the District Health Boards, where these professionals were
employed, who allowed their participation in the research to occur alongside their standard tasks.

Thank you to the clients who participated in both the BTP and TEAM studies. Without their willingness to take part, these investigations and this PhD would not have been possible. During the research they completed of a large number of assessments and questionnaires, which at times, from their perspective, bore little relevance to what they were seeking help for.

Throughout the course of this PhD I am eternally grateful to the guidance and support provided by my supervisors, Associate Professor Simon Adamson, Dr Daryle Deering and Dr Ria Schroder. Throughout this journey they provided me professional and academic wisdom, expertise, time, patience and encouragement. Their willingness and ability to work in harmony with each other meant that I was able to benefit from a wide range of skills and approaches that enriched and strengthened my research experience. A note of thanks also is given to Professor Chris Frampton for his kindness and skills in providing statistical advice. Thank you to Lisa Andrews for her guidance in formatting this document.

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LIST OF PHD OUTPUTS

Publications:


Conference Presentations:


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<tr>
<th>Acronym</th>
<th>Full Term</th>
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<tbody>
<tr>
<td>AA</td>
<td>Alcoholics Anonymous</td>
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<tr>
<td>ALT</td>
<td>Alanine Transaminase</td>
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<tr>
<td>AOD</td>
<td>Alcohol and Other Drug</td>
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<td>APQ</td>
<td>Alcohol Problem Questionnaire</td>
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<tr>
<td>ARM</td>
<td>Agnew Relationship Measure</td>
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<td>ASI</td>
<td>Addiction Severity Index</td>
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<tr>
<td>AST</td>
<td>Serum Aspartate Transaminase</td>
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<tr>
<td>BDI</td>
<td>Beck Depression Inventory</td>
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<tr>
<td>B-L RI</td>
<td>Barrett-Lennard Relationship Inventory</td>
</tr>
<tr>
<td>BRENDA</td>
<td>Biopsychosocial evaluation; Report to the patient on assessment; Empathic understanding; Needs collaboratively identified; Direct advice on how to meet needs; Assess reaction to advice and adjust as necessary for best care</td>
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<tr>
<td>BTP</td>
<td>Brief Treatment Programme</td>
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<td>CADS</td>
<td>Community Alcohol and Drug Service</td>
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<td>CALPAS</td>
<td>California Psychotherapy Alliance Scales</td>
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<td>Counselling As Usual</td>
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<td>Cognitive Behaviour</td>
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<td>Cognitive-Behavioural Analysis System of Psychotherapy</td>
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<tr>
<td>CIT</td>
<td>Critical Incident Technique</td>
</tr>
<tr>
<td>COMBINE</td>
<td>Combining Medications and Behavioural Interventions Study</td>
</tr>
<tr>
<td>CRA</td>
<td>Community Reinforcement Approach</td>
</tr>
<tr>
<td>DATOS</td>
<td>Drug Abuse Treatment Outcome Studies</td>
</tr>
<tr>
<td>DDD</td>
<td>Drinks per Drinking Day</td>
</tr>
<tr>
<td>DHB</td>
<td>District Health Board</td>
</tr>
<tr>
<td>DSM</td>
<td>Diagnostic and Statistical Manual of mental disorders</td>
</tr>
<tr>
<td>GGT</td>
<td>Gamma Glutamyl Transpeptidase</td>
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</table>
UKATT............... United Kingdom Alcohol Treatment Trial
VPPS.................. Vanderbilt Psychiatric Process Scale
VTAS.................. Vanderbilt Therapeutic Alliance Scale
WAI.................... Working Alliance Inventory
CHAPTER ONE: INTRODUCTION

The concept of alliance is ubiquitous in therapeutic research. It is generally accepted that all therapists need to develop a relationship with their client, regardless of the nature the relationship may take. With 11,000 articles on alliance published to date, alliance, as part of this relationship, is undoubtedly a concept of considerable interest in the study of the therapeutic process and outcome. Alliance research encompasses a wide range of areas as investigators have explored the nature and development of the concept in general, in relation to specific modalities and treatment populations, using different methodologies, at different levels of analysis as well as in relation to a growing range of other variables. Within this body of research the role alliance plays in treatment outcome has been of particular interest as researchers have strived to understand how change occurs. Knowledge gained has potential clinical relevance in identifying when and with whom alliance is most important in achieving better outcomes, and how clinicians can respond accordingly.

1.1 Scope and structure of the first three chapters

The current dissertation investigates the role of alliance in treatment outcome for people with alcohol dependence and depression. The aim of the first three chapters is to provide the context for the research conducted in the current investigation. To review all published research on alliance would not only be unwieldy but impossible within the scope and word limitations of a dissertation. As such the focus of the review will mirror that of the dissertation which has three research components. The major research component is the quantitative TEAM investigation. The other two components are the TEAM qualitative research and the BTP investigation. Taken overall, there is greater emphasis on alcohol dependence. This is reflected in the literature review, although research regarding both substance-using and depressed treatment populations has been included.

The main focus of this introductory chapter is to provide the background context for the research, beginning with the literature search and selection process. This will be followed by a discussion of the concept of alliance including its historical development. As there is a large volume of literature concerned with this area, the discussion tracks key developments and
major conceptual arguments, concentrating on landmark papers and pre-eminent voices in this area. As the dissertation is focused on the treatment population with co-existing alcohol dependence and depression, this will be followed by a brief discussion of contemporary treatment recommended for alcohol dependence and depression.

The second chapter will review key methodological issues, including the measurement of alliance, the main measurement tools, the influence of rater perspective (observer, client or therapist) and the patterns of alliance development. As there is a substantial body of alliance research with many equivocal findings, this chapter is placed prior to the literature review in order to highlight important methodological issues and provide a broader context before the critical reflection on this research.

The third chapter will review alliance research in two parts. The first discusses client, therapist and programme variables associated with alliance in general psychotherapy research, in substance-using treatment populations, and to a lesser degree, treatment populations with depressive disorders. Part two focuses on research of greatest relevance to the topic under investigation; that concerned with the alliance-outcome relationship, with particular attention given to those factors under investigation in the current research. Important reviews will be synthesised. This will be followed by research concerned with moderators of the alliance-outcome relationship in general psychotherapy literature. Next, there is a more detailed discussion of findings related to substance-using and depressed treatment populations. Lastly, pertinent qualitative alliance research will be reviewed.

1.2 Literature

1.2.1 Literature search

Major online databases including Ovid, Medline, PsycINFO and Ebscohost were searched for relevant literature. Key terms utilised included “therapeutic alliance”; “working alliance”; “therapeutic relationship”; “comorbidity”; “dual diagnosis”; “co-existing disorders”; “alcoholism”; “alcohol abuse”; “substance abuse”; “depression” and “major depression”. The search strategy applied with PsycINFO is provided in Appendix 2. Additional literature was identified via citations in published papers obtained in database searches.
1.2.1.1 Literature selection

The selection of reviews and commentaries was based on their significance as landmark studies. Original research selected tended to be that concerned with the specific treatment populations that were the focus of the dissertation; substance-using and depressed treatment populations. As an area of research where publications have continued to flourish, decisions have been necessary in terms of what will not be included. It was decided to exclude literature on adolescents, research where the focus is on specific disorders other than substance use or depression and single case studies.

1.3 The concept of alliance

To understand contemporary conceptual issues, including the role that alliance plays in treatment outcome, it is necessary to understand its historical development, including the context from which the concept of alliance emerged.

In considering these issues it is important to note that conceptual models have, for the most part, emerged from the field of general psychotherapy. Here the client is viewed as actively seeking change, which is often not the case in the alcohol and drug field. What is meant by “general psychotherapy research” in itself could be another lengthy discussion. For the purpose of this dissertation, what is understood as general psychotherapy research is investigations that are published to inform and which relate to most paradigms or the metanarrative of psychotherapy, rather than being specific to one model, theory or paradigm. The focus is not necessarily on diagnosed disorders. Whilst participants in research may be able to be defined diagnostically, research often includes participants receiving therapy to gain greater self-awareness and self-understanding or in response to specific issues and concerns, rather than in response to any specific psychopathology.

1.3.1 Historical development of the concept of alliance

In metanarrative terms, Freudian theory can be considered to be the grand theory from which other layers of alliance theory have developed. The idea that the relationship between the therapist and client is integral to the therapeutic journey has its foundations in the Freudian concept of transference (Horvath, 2006). This idea was developed further by Greenson, a psychodynamic theorist, who posited that transference was the “fantasy” part of the
relationship and alliance the “real” part of the relationship (Greenson, 1965). This ignited a debate as to whether alliance was conscious or unconscious. Contemporaneously, a paradigm shift occurred in how the therapeutic relationship was viewed, principally driven by Rogers (1959). He stated that it was the quality of the real relationship which mattered, identifying therapist qualities linked to a more positive outcome; these being warmth, unconditional positive regard, empathy and congruence (Rogers, 1959). Both these developments placed the relationship rather than the therapist as more central to the effectiveness of therapy. Meanwhile a further debate emerged as to whether alliance was an active ingredient in change, directly effecting outcome, or if it acted as a facilitative condition through which strategies could be put in place (Horvath, 2006).

During this period (1960-70s) there was a proliferation of psychotherapy theories and models. The growth was such that Bordin (1979) stated there existed “… the risk of solipsism, a psychotherapeutic method for each psychotherapist” and that … “research in psychotherapy has suffered from an analogous lack of convergence, and with it a disappointing impotence about providing empirical tests for competing claims” (Bordin, 1979, p. 252). In response to the issues Bordin raised, he produced seminal writing on the concept of the “working” alliance. He aimed to provide an integrated concept that could encompass the burgeoning number of theories and models, universally applicable beyond psychotherapy, to all those concerned with change. As such he proposed a construct that was deliberately pantheoretical as opposed to one embedded in a theory-specific model. In terms of theory, Bordin developed the translational theoretical ideas that made the grand theory of alliance, which had begun with Freud, relevant to the issues and challenges in the study of psychotherapy (Adams & Buetow, 2014).

Bordin’s construct of working alliance was comprised of three integrated components: the (emotional) bond, collaboration on tasks and agreement on goals. The focus on each component ebbed and flowed in the therapeutic relationship during its journey. The bond was more central in earlier sessions and overall the focus was on the conscious part of the relationship (Bordin, 1979). Proposed in this way, Bordin drew a line in the sand with regard to the conscious versus unconscious debate. However, as his definition highlighted the interdependence of relational and technical factors, it evaded rather than dealt with the active versus facilitative role of alliance. This continues as an on-going argument. Prominent contemporary theorists propose that, rather than the argument being one of technique versus alliance, the two operate on different dimensions. Alliance is seen as acting as an overarching
or superordinate concept through which technique or activity is mediated (Horvath, 2006). Meissner (2006) most clearly conveyed how these dimensions operate stating that alliance is “…all those factors and dimensions of the analytic relation that constitute the therapeutic pact and determine the context within which effective therapeutic interventions, interactions and interpretative communications can take place” (Meissner, 2006, p. 265).

Whilst consensus is emerging in some areas (e.g. conscious versus unconscious dilemma) other aspects of the concept continue to be debated. Some critics state that the influence of Bordin’s construct has left the field with a definition that, while more inclusive conceptually, is not narrow enough to discriminate what is effective in facilitating change (Horvath, 2006). However in considering these criticisms, it is imperative that the abstract nature of the concept is not mistaken for vagueness and that in the drive to delineate components or elements of alliance involved in the change process the overarching nature of alliance is not lost. Neither should Bordin’s desire to achieve theoretical convergence be forgotten.

Notwithstanding these concerns about broadness hindering discrimination, Bordin’s (1979) construct has undoubtedly been a major building block for ongoing conceptual development and in operationalizing measurement. Further conceptual development has been aided by Luborsky, McLellan, Woody, O’Brien and Auerbach (1985) who delineated two important elements involved in the formation of alliance within therapy: firstly, the belief in the therapist as a source of help; and secondly, the belief in the therapeutic process and commitment to shared ownership of this process (Luborsky, McLellan, Woody, O’Brien, & Auerbach, 1985). Subsequently, Horvath and Luborsky (1993) offered working definitions of the three components Bordin named. Firstly, they defined the bond as “… a network of positive personal attachments between therapist and client including mutual trust, acceptance and confidence”. Secondly, tasks were defined as “the in-counselling behaviours and cognitions that form the substance of the counselling process”. Thirdly, they defined the goals as the “outcomes that are the target of intervention”, mutually agreed by the therapist and client (Horvath & Luborsky, 1993, p. 563).

As research about alliance has progressed, different strands have developed around overlapping but similar constructs, some linked more closely to specific therapeutic modalities and prominent theorists. These terms include therapeutic alliance (Freud), working alliance (Greenson, Bordin) and helping alliance (Luborsky). For the most part, there is agreement on the overlapping nature of the concepts and terms. They are often used
interchangeably or taken to mean the same thing. Nonetheless differences exist. These will be outlined in the chapter on methodological issues and relevant links between conceptual underpinnings, measurement tools and author allegiances will be provided. Within this dissertation it is not feasible to resolve these differences and thus, to aid coherency and the narrative flow, the decision has been made to refer to the concept under question as “alliance”, regardless of the specific theoretical underpinning, allegiance of the author or measurement tool employed.

1.3.2 Definition

In light of these conceptual and terminology issues it is important to be explicit regarding how “alliance” is understood for the purposes of this dissertation. Hence, the definition of alliance employed is one that captures the essence of Bordin’s construct, with alliance defined as:

“… a collaborative relationship between the client and therapist that consists of an emotional bond and a shared presumption regarding the tasks and goals of the treatment endeavour” (Connors, Carroll, DiClemente, Longabaugh, & Donovan, 1997, p. 588).

The reasoning for selecting this definition is that it was used in Project MATCH, a seminal investigation in the substance use field which is the predominant research focus area of this dissertation. In addition, this definition is one that appears to have stood the test of time. Horvath, an eminent theorist in this area, recently affirmed the core of this definition stating that “… the quality of alliance is an index of the level of mutual and collaborative commitment to the ‘business of therapy’ by the therapist and client” (Horvath, Del Re, Fluckiger, & Symonds, 2011, p. 15).

In summary, alliance is generally understood to be a pantheoretical variable involved in the therapeutic change process. It is an aspect of the therapeutic relationship and involves an affective component and mutual collaboration concerning the work of therapy. Alliance is distinguished as a key element in the therapeutic relationship alongside others, such as transference. These elements are believed to occur simultaneously, concurrently and to overlap and interact (Meissner, 2006).
1.4 Alliance research

Alliance research is indisputably dominated by quantitative research using an empirical methodology. Reasons for this lie with the historical development of qualitative and quantitative research and the field of psychology, where most alliance research resides. As social sciences developed in the early decades of the twentieth century, points of differences arose. Sociology became more closely aligned to qualitative methods, linked primarily to the Chicago School and social theory. Psychology, in contrast, oriented itself toward the natural sciences and thus was dominated by the quantitative methods. Psychological inquiry was by classical scientific methods preoccupied with observation and experimental research designs. Depending on whether one believes it is in its first or second wave, the emergence, or re-emergence of qualitative research in social sciences began in the 1960s (Jovanovic, 2011). However, psychology remains the exception, there being a protracted delay in engaging with qualitative research methodologies. Reasons for this are various: firstly, the paradigm clash between empiricism and interpretivist approaches of qualitative research; secondly, mainstream psychology’s failure to adequately define its position with respect to qualitative research; and lastly, a lack of acceptance or support from overarching bodies such as the American Psychological Association. However, there is now evidence that the tide may be turning, with a small increase in qualitative research in psychology being published (Jovanovic, 2011).

The origin of alliance may be argued to have emerged from more qualitative-oriented psychoanalytic psychotherapy research (i.e. Freud), which, for reasons beyond this discussion, strived to be recognised as a scientific profession (Horvath, 2005). Logically, lines of inquiry associated with its key concepts became embedded in the field of psychology, and thus empirical research. And whilst there are undoubtedly exceptions, alliance research remains dominated by quantitative method and empirical methodology. Increasingly concerns have been raised about the limitations of this singular approach and specific issues are discussed in the following chapter on methodological issues (refer section 2.1.5).

Empirically, therapeutic alliance has been the most studied element of the change process (Castonguay, Constantino, & Holtforth, 2006) with investigations pertaining to the pattern of development, and therapist and client characteristics associated with stronger alliance (Horvath & Luborsky, 1993). It has also been realised that whilst process variables concern what occurs in the room, their influence outside the room and beyond treatment cannot be
negated. As a result a line of inquiry has begun, which links process and what occurs during therapy, to outcome.

That therapeutic alliance has become one of the most frequently studied pantheoretical elements of the change process has come about due to a number of factors. Historically, theories about psychological disorders focused on etiological factors and explanations based on the belief that “... understanding the source of the problem would yield all the relevant information about mechanisms needed to shape an intervention strategy that would produce change” (DiClemente, 2007, p. 135). In determining the process of change, the research focus was most often on the different techniques and elements contained in specific therapeutic modalities. Pivotal findings prompted a shift in research focus from differences in treatment models to commonalities. Key to this shift was the findings from controlled comparisons of psychotherapy models, that different models produce similar amounts of therapeutic change (Luborsky, Singer, & Luborsky, 1975). This precipitated the recurrent happening in treatment literature commonly referred to as “the dodo effect”, referencing Lewis Carroll’s Alice in Wonderland where the dodo decrees, “we all won so we all get prizes”. Despite extensive research to determine the most effective treatment model, conclusions remain that no one model is superior (Horvath & Luborsky, 1993; Imel, Wampold, Miller, & Fleming, 2008). As a result there has been a growing body of research investigating pantheoretical concepts (also referred to as non-specific treatment factors). This research has focused on common elements underpinning treatment models that enact change as opposed to the differences between the models. Given the centrality of the relationship in most theories and models, attention has focused upon the nature of this relationship. What materialised was a greater emphasis on reciprocity. Orlinsky, Grawe and Parks (1994) in their review of 2,300 studies relating to therapeutic process and outcome, reaffirmed that the quality of the patient participation in treatment was the most important determinant of outcome, with the bond between the therapist and client mediating the link (Orlinsky, Grawe, & Parks, 1994). The authors argued that the therapeutic relationship was much more than one in which the client passively responded to the therapist’s qualities of warmth, unconditional positive regard, empathy and congruence (Rogers, 1959). It involved a crucial interactive process and was an inter-dependent relationship. There is general agreement that alliance is a pantheoretical concept, centred on reciprocity via collaboration involving therapeutic interaction and the affective bond. As such, it has logically followed that in research concerned with therapeutic change the concept of alliance has been in the ascendency.
1.4.1 The study of alliance in AOD and depression research

The above pivotal developments in research, that have led to alliance being the focus of much investigation in general psychotherapy research, have also led to alliance being of interest to researchers interested in specific treatment populations. These include those with substance use and depressive disorders. Findings from ground-breaking investigations into what brings about change for those with substance use disorders or depression have mirrored those reported in general psychotherapy. Specifically, investigations in the AOD field have failed to distinguish any one model of treatment as achieving consistently better outcomes (Imel, et al., 2008; Project MATCH Research Group, 1997; UKATT Research Team, 2005).

In the alcohol field two large multi-site, multi-treatment investigations support the shift in focus towards pantheoretical concepts. Project MATCH (n=1,726) was a randomized controlled clinical trial designed to investigate matching clients to alcohol treatment, with two parallel arms. The outpatient arm recruited clients from outpatient settings and directly from the community. The aftercare arm recruited clients into Project MATCH after the completion of inpatient treatment. Clients were randomly assigned to one of three treatment conditions, Cognitive Behavioural Coping Skills Therapy (CBT), Motivational Enhancement Therapy (MET), and Twelve Step Facilitation Therapy (TSF) (Project MATCH Research Group, 1997). This investigation found that, for the most part, it didn’t matter which modality subjects were assigned to, as the different modalities had comparable improved drinking outcomes (Project MATCH Research Group, 1997). Similarly, the UKATT (n=742) multi-site trial comparing Social Behaviour and Network Therapy (SBNT) with MET reported similar overall improvements in alcohol use and mental health outcomes between the two treatment conditions (UKATT Research Team, 2005). These findings are buttressed by findings from meta-analysis of RCTs that compared psychotherapies in alcohol use disorders treatment. This research concluded there was no evidence that any one psychotherapy model attained consistently better outcomes (Imel, et al., 2008). Correspondingly, multi-site, multi-treatment investigations regarding depression also provide strong support for the crucial role of underlying commonalities in effecting change (Krupnik et al., 1996). The Treatment of Depression Collaborative Research Program (TDCRP: n=250) compared CBT, Interpersonal Psychotherapy (IPT) and pharmacotherapy. Overall, outcomes were remarkably similar regardless of treatment condition (Eklin et al., 1989).

Thus the investigation of alliance as a pantheoretical concept has been identified as a fruitful line of inquiry to elucidate the process of change both in general psychotherapy research and,
more specifically, in the research fields of substance use and depression. As such, and as discussed in the introduction, a large volume of empirical investigations and literature has been produced and continues to emerge, with ever expanding lines of inquiry. Initially research was more broadly concerned with understanding alliance as it relates to the therapeutic process. Over time, alliance has also become a ubiquitous part of outcome-focused research.

The current investigation regarding the alliance-outcome relationship focuses on a specific treatment population. To contextualise this investigation, the following section provides New Zealand (NZ) prevalence rates for the disorders under investigation. In addition, as alliance is a component of the therapeutic relationship involved in the delivery of treatment, a summary of contemporary treatment knowledge and practice concerning alcohol dependence, depression and for when these disorders co-exist is provided.

### 1.5 Alcohol dependence and mood disorders

In NZ major depressive disorder and alcohol use disorders occur at high rates in comparison to other mental health problems. The NZ Mental Health Survey, a general household survey which interviewed 13,000 participants, reported that 16% of participants met the criteria for a lifetime history of a major depressive disorder and 15.4% for an alcohol use disorder (Oakley Browne, 2006). Similarly, high rates of a co-existing substance use and mood disorder occur in both the general population and in clinical populations. The NZ Mental Health Survey reported that 29% of those who had a substance use disorder in the previous 12 months also had a comorbid mood disorder (Scott, 2006). An investigation with two NZ outpatient AOD treatment services (n=105) reported that 53% of clients currently met the criteria for a co-existing substance use and mood disorder. The lifetime prevalence was reported to be 73% (Adamson, Todd, Sellman, Huriwai, & Porter, 2006).

Thus it is evident that in NZ, alcohol dependence and depression occur frequently both as standalone disorders and as co-existing disorders. In NZ government-funded treatment provision for these disorders is guided by evidence-based research and international best practice recommendations. Recommendations and provision for the individual disorders and the co-existing condition are closely related. A summary of these follows. Treatment for
alcohol dependence and depression is presented first, followed by additional recommendations for when the disorders co-exist.

1.5.1 Treatment for alcohol dependence

The treatment landscape for alcohol use disorders varies and is dependent on a combination of historical, cultural, socio-political, philosophical and organisational factors. These factors influence the way in which evidence-based research has been translated into practice guidelines and the impact these clinical guidelines have had in shaping practice. Most is known about treatment delivery in western countries. In the United States there is a tendency for a greater emphasis on abstinence and confrontational approaches underpinning treatment compared with other western countries to which treatment provision in NZ is more closely aligned.

In an attempt to determine which treatment interventions produce better outcomes, several large well-designed multi-site investigations have compared different treatment interventions, e.g. Project MATCH (Project MATCH Research Group, 1997), UKATT (UKATT Research Team, 2005) and COMBINE (The COMBINE Study Research Group, 2003). These studies found that of the treatment models included (CBT, TSF, MET, SBNT and pharmacotherapy) all achieved improved drinking outcomes. No one treatment model was superior. Further analysis has shown that some treatment models were more effective with respect to specific sub-populations. However, attempts to extrapolate overall findings to standard treatment settings have been challenged by studies exclusion criteria which mean that the research treatment populations often differ from routine treatment populations.

A further comparative analysis of treatment interventions was conducted in Miller and Wilbourne’s (2002) Mesa Grande study in which the authors ranked treatment models against one another in terms of treatment efficacy. This study reviewed 361 controlled studies on alcohol treatment accounting for 72,052 clients. Studies were coded, based on the quality of methodology and an outcome logic score. The outcome logic score was inferred from the design and denoted specific efficacy. Codes were used to produce a ranking system in terms of a cumulative evidence score. The authors acknowledged the limitations of their findings, as the review included only controlled studies and three quarters of the research had been conducted in North America (Miller & Wilbourne, 2002).
Bearing in mind these limitations, findings from the above large-scale investigations and evidence-based reviews have produced some level of consensus regarding key models that are effective, which is influenced to some degree by the severity of dependence and drinking pattern (Miller & Wilbourne, 2002; Raistrick, Heather, & Godfrey, 2006). This consensus is reflected in best practice guidelines which encapsulate an approximation of contemporary treatment models most commonly employed in routine clinical practice.

These guidelines state that most treatment models are required to be applied within a framework of person-centred care where an individual’s needs and wants are taken into account. Good communication is considered essential for informed decisions to be made and, with the client’s agreement, involvement of the family recommended (National Collaborating Centre for Mental Health, 2011). Specific treatment models recommended include brief interventions, motivational interviewing, cognitive behavioural approaches and pharmacotherapy.

Brief intervention refers to one to two sessions which include advice and feedback, preferably incorporating motivational approaches (Raistrick, et al., 2006). This was ranked highest on the Mesa Grande Table (Miller & Wilbourne, 2002). Whether delivered in AOD, specialist or non-specialist care, as a cost-effective and less intensive treatment, brief interventions are highly prevalent and have good effectiveness for people with harmful and hazardous drinking or mild dependence. However, there is a lack of evidence to support their efficacy for people who have moderate to severe alcohol dependence (Raistrick, et al., 2006).

Motivational interviewing is defined as “… a directive, client-centred counselling style for eliciting behaviour change by helping clients to explore and resolve ambivalence” (Rollnick & Miller, 1995, p. 325). It is now established as a key component of treatment across the problem drinking continuum.

Other interventions recommended for people with harmful or hazardous drinking and mild dependence include psychological interventions such as CBT, behavioural therapies or social network and environment-based therapies (National Collaborating Centre for Mental Health, 2011). With these and other psychosocial interventions there is a great deal of overlap and no specific fidelity to one particular model is likely in practice. These interventions tend to combine a range of components and are often favoured, as they can be easily tailored to individuals, are performance-based, contain social and interpersonal elements and work well
Pharmacotherapy is recommended alongside psychosocial treatments for people with moderate to severe alcohol dependence (National Collaborating Centre for Mental Health, 2011). Efficacy and utilisation of pharmacotherapy is supported by research with anti-craving medications (naltrexone, opioid antagonist and acamprosate, GABA agonist) ranking high on the Mesa Grande Table (Miller & Wilbourne, 2002).

The community reinforcement approach (CRA) is stated as being particularly effective for more severely dependent, socially isolated or unstable clients (Raistrick, et al., 2006). This approach was ranked high on the Mesa Grande Table and includes a range of components aimed at engineering a persons’ social environment. It is distinct from CBT in its use of a detailed functional analysis and reinforcement contingencies. As with other psychological interventions, the CRA is most effective for people with moderate to severe alcohol dependence when it is used alongside pharmacotherapy (Raistrick, et al., 2006).

Although less pronounced in clinical practice guidelines, a number of other interventions feature prominently within the treatment landscape. These include therapeutic communities and 12 step facilitated treatment (both individual counselling and self-help groups, e.g. AA). Mostly these interventions, along with educational approaches (e.g. lectures, films), psychotherapy and mandatory AA attendance, are ranked comparatively lower on the Mesa Grande Table (Miller & Wilbourne, 2002), which may account for their reduced presence in clinical guidelines. Lastly, whilst the treatment landscape has witnessed a shift away from confrontational style approaches, they do still retain some prominence in the United States (White & Miller, 2007).

### 1.5.2 Treatment for depression

There is an abundance of therapeutic models that have been employed to alleviate depression. As with alcohol dependence, clinical guidelines and agreed best practice models are dependent on level of severity and subtype of the depressive disorder. In addition, it is argued that, rather than a specific model, it is the therapeutic relationship that is of greatest benefit in
monitoring medication compliance and encouraging persistence, ego strength, motivation and the capacity to relate (Ellis, 2004). For mild depression, supportive clinical care with psycho-education and teaching problem-solving skills or supportive counselling is recommended and can be delivered in non-specialist settings such as primary care. For moderate depression, large multi-site investigations have reported that pharmacotherapy (antidepressant medication) and the psychotherapy models of CBT and IPT have been found to be superior to placebo (Eklin, et al., 1989). IPT focuses on making links between current interpersonal problems and depressive symptoms aiming to help the client change rather than live with the symptoms. Research has found that combining treatments is no more effective than psychotherapy or medication alone except for the case of severe recurrent depression (McKenzie, Carter, & Luty, 2004). For those with severe depression, medication is most effective when followed by psychotherapy to treat residual symptoms. Electroconvulsive therapy is also recommended for severe unresponsive depression. As it offers only short-term benefits it should be followed by maintenance medication (Ellis, 2004). The limited research base for psychodynamic therapies has precluded their recommendation in best practice guidelines. If they are employed, short-term psychodynamic therapies are suggested (5-40 sessions) (McKenzie, et al., 2004).

1.5.3 Treatment for co-existing alcohol dependence and depression

Alcohol dependence is commonly associated with a depressive syndrome which can be identical to a major depressive episode. Practice guidelines for when alcohol dependence and depression co-exist recommend treating alcohol dependence first, as in the majority of cases these depressive symptoms abate within a few weeks of abstinence from alcohol. Thus treatment can commence whilst diagnosis is being confirmed. If the depression persists or is considered primary, it is recommended that standard treatments for depression can be easily combined with treatment for the alcohol problem (National Collaborating Centre for Mental Health, 2011). In terms of psychologically-based treatment models, the increased complexity of co-existing disorders means that no single treatment approach is likely to meet all the needs and goals of a client with these disorders. Research supports the use of behavioural therapies to enhance engagement, stabilization and medication compliance, to reduce substance use and promote associated symptom relief, and to enable clients to cope with depressive symptoms. They are also recommended to assist with other psychosocial problems that are linked with the disorders. Therapies recommended include motivational interviewing and CBT. There is also good evidence for using contingency management approaches, however most research
has been conducted with homeless-substance-using populations so it is difficult to generalize the suitability of contingency management approaches to other treatment populations (Carroll, 2004).

NZ generic guidelines for the treatment of people with substance use and co-existing mental health problems recommend a comprehensive treatment package that meets the holistic needs of clients, rather than treatment relating only to the severity of symptoms (Todd, 2010). This recommendation recognizes that improved outcomes, as defined by the client, may place less emphasis on psychiatric symptoms and more on social, spiritual or cultural problems, for example housing stability or cultural dislocation. As these areas are inextricably linked to the psychiatric condition, improved outcomes in these areas are likely to impact positively on overall psychological well-being (Miller & Miller, 2009; Todd, 2010).

In summary, alcohol dependence and depression are commonly occurring disorders. Treatment provision is based on guidelines developed from evidence-based research. These guidelines recommend the use of psychologically-based interventions and pharmacotherapy. The choice of specific interventions employed is dependent on the severity of the disorder and the nature of the issues experienced by the individual.

As alliance research has developed, it has become clear that there are a number of methodological issues that need to be considered both in interpreting this material and in the design of future research. In order to give sufficient consideration of these factors to the research reviewed, the following chapter will outline the key methodological issues in investigating the role of alliance in general and in relation to outcome.
CHAPTER TWO: METHODOLOGICAL ISSUES

In the study of alliance and outcome numerous factors challenge comparability of research findings (Horvath, et al., 2011), thus hindering firm conclusions being made (Horvath, et al., 2011; Martin, Garske, & Davis, 2000; Orlinsky, Ronnestad, & Willutzki, 2004). Of particular note is the variability in alliance and outcome measures employed. Other crucial factors are: rater perspective, the pattern of alliance development, when and how often alliance and outcome are measured and broader features of research design, e.g. data from randomized controlled trials versus naturalistic data, i.e. data gathered during routine clinical practice.

The following section will review key methodological issues. This will be done in two sections; firstly, methodological issues as they relate to alliance per se. This includes how alliance is measured, the influence of rater perspective and the role of the pattern of alliance development. The second section will discuss the above research design factors, as well as treatment length and rate of follow-up in relation to the alliance-outcome relationship.

2.1 Alliance measurement

Measuring alliance as a variable occurs in many different ways, ranging from measurement at the level of each utterance to a single global measure of the therapeutic relationship (Orlinsky, et al., 2004). Horvath, Del Re, Flückiger and Symonds (2011) recent meta-analyses of empirical alliance research reported that 30 different measures were utilised in the 201 studies included. However, approximately two-thirds of these belonged to four core measures whose origins mostly were during the 1970s and 1980s. These measures were the Working Alliance Inventory (WAI), California Psychotherapy Alliance Scale (CALPAS), Vanderbilt Psychiatric Process Scale (VPPS), and the Helping Alliance Questionnaire (HAq) (Horvath, et al., 2011). The latter measure came out of a group of measures known as the Pennsylvanian Scales. Similarly, the majority of research with substance-using and depressed populations has employed an alliance measure from these four families. A summary of the conceptual basis of these four measures and a description of their structure and psychometric properties follows. A discussion of the WAI, as the measure employed in the TEAM research, is provided first and in the greatest detail.
2.1.1 Working Alliance Inventory

The WAI is a 36-item self-report instrument based on Bordin’s pantheoretical concept of alliance (Horvath & Greenberg, 1989). The central reason for its construction being derived from Bordin’s conceptualisation was to ensure the measurement of alliance encompassed the range of different theoretical drivers, i.e. psychoanalytic and behavioural. As such, it was thought that independence from the therapist’s theoretical orientation would enable greater generalizability. The measure consists of three subscales which were designed to reflect Bordin’s three components of alliance. First, the bond between the client and therapist, including mutual liking, attachment and trust (bond subscale); second, the collaboration about therapeutic tasks including strategies and techniques (task subscale); and third, the agreement of therapeutic goals, including areas targeted for change (goal subscale) (Stiles et al., 2002; Tracey & Kokotovic, 1989). Examples of items rated include, “I disagree with __________ about what I ought to get out of therapy” and “We have established a good understanding of the kind of changes that would be good for me” (Horvath & Greenberg, 1989). There are client, therapist and observer versions, with items on each rated on a 7-point Likert scale. The WAI provides three subscale scores as well as a total overall score. For the complete version used by the therapist and client see Appendix 4. A 12-item short version has also been developed (Tracey & Kokotovic, 1989). The benefit of the short version, ease of administration, is countered by its limited potential to inform on the role of the three specific components.

2.1.1.1 Subscale interdependence

From a psychometric point of view orthogonal components offer the best chance of informing on the role alliance plays in both the prediction of outcome and the explication of the counselling process. The fact that Bordin defined the three components in relation to one another is problematic if aiming to determine their unique contribution. Thus in developing the WAI an attempt was made to maximise the discriminative capacity of each subscale in terms of the alliance dimension they represented, by selecting items that appeared either ambiguous or the most distinct. Horvath and Greenberg (1989) stated that multiple regression of subscale scores indicated they had tapped into highly related but functionally distinct components. However, evidence was limited as it was based on a series of three studies with relatively small sample sizes (n=25-31 client-therapist dyads). As there was substantial overlap between the subscales, with task and goal sharing a high degree of covariance, the question arose as to whether the three subscales measured conceptually different components
of alliance or whether alliance, as measured by the WAI subscales, was unidimensional. An answer to this question was provided by Tracey & Kokotovic (1989) in their research at a University Counselling Centre with 124 client-therapists dyads who completed the WAI. Factor analysis confirmed that the WAI measured a general alliance factor as well as three specific alliance factors of bond, task and goal. However, while items appeared to have achieved their discriminative purpose, results were such that caution was suggested when utilising subscales. The authors stated that subscales were more suitable for multivariate rather than univariate analysis. Goodness of fit models were found to be less uniform and lower for the subscales (Tracey & Kokotovic, 1989). This is consistent with the findings by Horvath & Greenberg (1989) with regard to discriminant validity between the subscales. Findings were supportive for the goal scale, but only offered limited support for the task scale and were equivocal for the bond scale (Horvath & Greenberg, 1989).

2.1.1.2 WAI: Validity

Findings pertaining to criterion-related construct validity, including predictive, concurrent and convergent (discriminant) validity of the WAI as a measure of alliance have been reported. Treatment outcome is one of the main variables discussed with regard to the predictive validity of alliance measures. This relationship is the focus of this dissertation. An indepth discussion follows in Chapter Three. As such, discussion of the predictive validity of the WAI will be confined to how the WAI compares with other key alliance measurement tools.

Safran and Wallner (1991) compared the predictive validity of the WAI with that of the CALPAS. Both measures were found to be predictive of outcome for a small sample (n=22) of clients receiving cognitive therapy, although the CALPAS was more predictive of change across a slightly wider spectrum of outcome measures compared to the WAI (Safran & Wallner, 1991). Fenton et al. (2000) reported on the predictive validity of six different measures of alliance in terms of treatment outcome for a population of clients with comorbid cocaine and alcohol dependence. Using data from a RCT, which compared CBT and TSF, the authors compared the client, therapist and observer versions of the WAI with the observer version of the VTAS, CALPAS and Penn. When looking at the sample overall, all four observer measures were significantly correlated with outcome, but the client and therapist versions of the WAI were not. However when comparing the different treatment conditions (TSF: n=25 clients or CBT: n=21 clients) the authors reported that the Penn and VTAS predicted outcome for both the CBT and TSF treatment conditions, the CALPAS predicted
only for the CBT and the WAI only for the TSF (Fenton, Cecero, Nich, Frankforter, & Carroll, 2001).

Whilst the above findings indicate that observer ratings of alliance have greater predictive validity, this does not necessarily mean that the WAI was not able to predict outcome. Rather, observer measures were found to have a stronger relationship. This could be because observer measures were tapping into a slightly different aspect of the concept more closely aligned to outcome. Either way this finding adds weight to arguments that it is important to measure the alliance from more than one perspective. This will be discussed later in the section on rater perspective (section 2.2).

The belief that the unique concept of working alliance is captured by the WAI is supported by two studies which have reported on convergent validity by comparing measures assessing related concepts. Stiles et al. (2002) compared the WAI with the Agnew Relationship Measure (ARM) on all three rater perspectives (client, therapist and observer) at the dyad level and at the session level in a sample of clients who had participated in a clinical trial of brief therapy for depression. The authors reported high convergent validity with scores of .80 and .90 for within-perspective (client or therapist) dyad-level related subscales. Lower convergence was reported at the session level, .54 for clients and .57 for therapists, suggesting change in alliance across time impacted on the level of convergence (Stiles, et al., 2002). Lastly, Horvath and Greenberg (1989) report that the pattern of intercorrelations between the WAI subscales and the dimensions of the Counsellor Rating Form, an instrument designed to measure relationship constructs based on the social influence theory, supports concurrent validity (Horvath & Greenberg, 1989).

### 2.1.1.3 WAI: Reliability

Initial research by Horvath and Greenberg (1989) in the development of the WAI supported its reliability as a measure of alliance with high internal consistency, with Cronbach alpha coefficients of .93 reported for the client version and .87 for the therapist version (n=25-31 client-therapist dyads). Subscales were also reported as being reasonably stable with good inter-rater reliability of .70 (Horvath & Greenberg, 1989). Project MATCH also reported high internal reliability of the WAI in substance-using populations based on much larger sample sizes (outpatient = 698 clients & 40 therapists and aftercare arm = 498 clients & 35 therapists). Cronbach alpha coefficients of .70 and above were reported for the measure across
client and therapists, and outpatient and aftercare arms (Connors, et al., 1997). Yet even stronger support for the reliability of this measure of alliance comes from Hanson, Curry and Bandalos (2002), who conducted meta-analysis of reliability scores from different versions of the WAI based on an analysis of 25 studies published between 1989 and 2002. For the client version of the WAI the authors reported that internal consistency estimates ranged from .77 to .92, and subscale scores ranged from .82 to .97. For the therapist’s version internal consistency estimates ranged from .87 to .93 and subscales from .68 to .95 (Hanson, Curry, & Bandalos, 2002). These studies indicate that, particularly with regard to total scores, the WAI has highly acceptable standards of reliability.

In summary, there is strong support for the reliability and validity of the WAI as a measure of alliance. Questions persist regarding the dimensionality of the WAI, and while therapist and client versions do not appear to be as predictive of outcome as other observer measures, there are a number of strengths that have no doubt resulted in it being one of the most frequently utilised measures of alliance. Firstly, having been derived from Bordin’s pantheoretical conceptualisation of alliance, the WAI is better placed to be suitable for the study of all types of therapy. Secondly, its widespread use allows for more direct comparison across studies. Lastly, relatively little training is necessary for its users (Fenton, et al., 2001).

2.1.2 The Pennsylvania Helping Alliance Rating Scale

The Pennsylvanian family of measures were initially developed by Luborsky and colleagues, based on the psychodynamic conceptualisation of alliance and measured two main dimensions. The first dimension (Type I) consisted of four subscales and related to the patient’s experience of receiving the help needed. This dimension is more closely related to psychoanalytic concepts. The second dimension (Type II) had three subscales and related to the patient’s experience of therapy as a collaborative process, working towards the goals and tasks of treatment. The first measure developed within this family was the Helping Alliance Counting Signs measure (HAc: (Luborsky, 1976)). Using a written transcript of a session, clinical observers identified examples of alliance which were assigned to one of the seven subscales and rated on a 5-point Likert scale. As this process was time consuming a subsequent measure, the Penn Helping Alliance Rating Method (HAr), was developed by converting each of the subscales into a 10-point Likert scale rated by clinical observers (Morgan, Luborsky, Crits-Christoph, Curtis, & Solomon, 1982). A version was also developed to be rated by therapists. Next Luborsky and his colleagues developed the Helping
Alliance Questionnaire Method (HAq: (Luborsky, et al., 1985) to directly measure patients’ perception of alliance based on 11 items scored on a 6-point Likert scale. A therapist’s version of this scale has also been produced (Gerstley, McLellan, Alterman, Woody, & Luborsky, 1989). These later, more user-friendly, versions are commonly utilised by researchers when assessing perception of alliance according to Luborsky’s conceptualisation. All these measures have reported adequate reliability and validity (Horvath & Luborsky, 1993). Of particular relevance are the psychometric properties reported in a substance-using population of 246 cocaine dependent outpatients (Luborsky et al., 1996). The authors reported good internal consistency, based on measures across three sessions (2, 5 and 24), with 16 of a possible 19 Cronbach alpha coefficients being .40 and above, the average being .64. This study also reported high test-retest reliability coefficients.

2.1.3 The California Scales

The California Psychotherapy Alliance Scales (CALPAS) were based on the earlier developed Therapeutic Alliance Scale, which had focused on the affective aspect of alliance. This scale had 42 items and was developed for non-participant observers, who rated positive and negative aspects of the patient and of the therapist alliance (Marziali, Marmar, & Krupnik, 1981). The subsequently developed CALPAS had a broader eclectic conceptual base, which included Bordin’s conceptualisation of agreement on tasks and goals as well as other theorists’ concepts of affective bond, ego capacity and the therapist’s role as an empathic listener. The CALPAS was also based on empirical results of other alliance measures (Cecero, Fenton, Nich, Frankforter, & Carroll, 2001).

There are patient, therapist and observer rated versions of the CALPAS which consist of 24 items rated on a 7-point Likert scale. The scales measure Gaston’s (1990) four aspects of alliance: therapeutic alliance measured by the patient’s working capacity scale; working alliance by the patient commitment scale; the therapist contribution by the therapist understanding and involvement scale; and patient-therapist agreement on treatment goals and tasks using the working strategy consensus scale (Gaston, 1990). Gaston, Marmar, Gallagher and Thompson (1991) confirmed these four factors through factor analysis and they reported good internal consistency. The Cronbach alpha co-efficient was .84 for the whole scale and .43 to .73 for the subscales. The authors also stated that criterion-related discriminant validity for the scale was supported as scores were neither associated with the patient’s age, level of education, income and number of sessions in therapy, nor the therapist’s gender, orientation
or social desirability scores. Convergent validity confirmed all scales were associated with satisfaction in therapy (Gaston, Marmar, Gallagher, & Thompson, 1991).

2.1.4 The Vanderbilt Scales

The Vanderbilt Scales were designed to reflect a combination of the dynamic and integrative conceptualisations of alliance incorporated in the theories proposed both by Strupp and colleagues and by Bordin. The first developed in this family were the Vanderbilt Psychotherapy Process Scales (VPPS: Suh, Strupp, & O’Malley, 1986). These contained 80 items which related to the therapist-client relationship and psychotherapy process. They assessed both positive and negative aspects of patient and therapist behaviour and attitude that were expected to facilitate or impede progress in therapy. The VPPS were developed for clinical observers who rated items on a 5-point Likert scale. Items encompassed global functioning, the quality of the relationship, productivity of the session and the patient’s current level of functioning. As the VPPS were not designed to specifically measure alliance, the Vanderbilt Therapeutic Alliance Scale (VTAS) was developed for this purpose. Observers viewed therapy sessions for a given period and items were rated pertaining to the therapist, the patient and their relationship with each other. Factor analysis found the two measures to have similar structures (Hartley & Strupp, 1983). More recently, the authors have advocated the use of the Structural Analysis of Social Behaviour System. This system measures small units of interpersonal transactions, usually one sentence or less. It acts more as a refined measure of analysis, rather than as a global measure (Benjamin, 1974).

In summary, all four core measures employed in the majority of studies have adequate reliability and validity. All four also have the ability to provide both a global measure and measures related to different components of alliance via their respective subscales. Because there is a range of alliance measures based on different conceptualisations, the question arises as to how comparable the findings are. An initial review suggested that different ‘families’ of instruments appear to be tapping into different aspects of alliance (Horvath & Symonds, 1991). However, conceptual analysis of these four families of instruments found that, although each measure emphasises different components of the concept, the underlying constructs overlap (Hougaard, 1994). Moreover, a subsequent study designed to compare psychometric properties of these measures in a substance-using population, reaffirmed that the four core measures assessed a similar construct, although admittedly not the same (Cecero, et al., 2001).
2.1.5 Further issues with measurement instruments

Whilst it appears that measures are comparable, debate continues regarding whether it is possible to achieve one measure that captures alliance as it manifests across all therapeutic models. However, the quandary is that if a measure is able to capture nuances particular to specific models, it may be too specific to allow for comparability with other measures used in alliance research. There has been some suggestion that what may answer these challenges is future research measuring alliance at two levels and employing two measures, one generalizable and the other specific to the theoretical model(s) in question (Hatcher & Barends, 2006).

In a similar vein to the need for measures to be more closely aligned with therapeutic models, some have argued there is a need for specific measures to be developed for different treatment populations. Orford highlighted “…that existing measures of the alliance, (such as the WAI), are not based on a well-founded theory of what helps promote addictive behaviour change, but rather on a very general notion of the formation of a therapeutic alliance in psychotherapy” (Orford, 2008, p. 5). He suggests a move to an events paradigm when investigating change, focusing on events that occur during the course of treatment, for example commitment to change statements or completion of homework (Orford, 2008). This raises the question of whether the substance use field itself, as in other areas, needs to develop its own instruments or even its own specific theory and concept from which instruments emerge. This argument is further supported by questions that remain regarding the applicability of the alliance concept and measurement tools thus far employed, and therefore generalization of findings given the unique characteristics of substance-using (and possibly other) treatment populations. For example individuals are more likely to have had external pressure to enter treatment, including legal mandating (Howgego, Yellowlees, Owen, & Meldrum, 2003; Redko, Rapp, Elms, Snyder, & Carlson, 2007). The potential impact of this is buttressed by findings that traditional alliance measures do not capture “…the dual roles inherent in relationships with involuntary clients” (Skeem, Louden, Polaschek, & Camp, 2007, p. 397). That they may be more likely to receive free treatment compared to general psychotherapy clients is also purported to influence ratings (Shick Tryon, Collins Blackwell, & Felleman Hammel, 2007). This is discussed in more detail in the following section on rater perspective (refer section 2.2).

Undoubtedly researchers will continue to employ a range of instruments, the selection being based on those that best fit their purpose to capture the concept as they see it or to best inform
the research question or treatment population. It is also likely that this will mean that existing measures will continue to be refined and new measures emerge such as the ARM (Stiles, et al., 2002) and Dual-Role Relationships Inventory (Skeem, et al., 2007). It is also likely that measures will be revised and selected on the basis of length as the benefits of shorter assessment tools, such as being easy to administer, are weighed against costs. Notably that the information shorter instruments yield is much more limited for reporting on specific components that are better captured and able to be delineated in longer measures.

In conclusion, it may be that these conceptual and treatment population issues indicate a need for research designs that employ more than one measure of alliance. They would then capture alliance as it manifests within certain populations. This is, in addition, consistent with the notion that current measures only capture generic features of alliance. Specific measures may also be needed to detect those features associated with certain therapeutic models (Hatcher & Barends, 2006).

2.2 **Rater perspective: Client, therapist or observer**

Alliance is a relational concept, perceived on the basis of one’s role, that is, as a member of the relationship, the client or therapist; or as an outsider to this relationship, the observer, e.g. independent clinician or researcher. As previously outlined most of the four core measures of alliance have attempted to capture these different perspectives with instruments designed to assess alliance from each of these three viewpoints. As may be expected, differences have been reported in the influence that rater perspective has on the strength of alliance ratings, how each perspective relates to one another and also how alliance is rated across the course of treatment. These three areas will now be discussed.

2.2.1 **Rater influence on the strength of alliance**

Researchers have consistently reported that alliance tends to be rated more favourably by clients than by therapists (Horvath, et al., 2011; Orlinsky, et al., 2004; Shick Tryon, et al., 2007). Meta-analysis conducted by Shick Tryon et al. (2007) investigated the relationship between client and therapist alliance ratings, including factors that may have moderated the strength of this association. The 53 studies (52 data sets) were published from 1985 to 2006 and included those that employed the more frequently utilised measures of alliance. Studies
also included a range of treatment populations (mild to severe psychological disturbance),
treatment modalities and length of treatment. The authors reported that, overall, clients rated
alliance higher than therapists, with findings midway between a medium and large effect size
\(d = .63\) (Shick Tryon, et al., 2007). Findings that alliance is rated more highly by clients
continue to be reported in the substance-using treatment population (Knuuttila, Kuusisto,
Saarnio, & Nummi, 2012a). It has been suggested that the cost of therapy may explain this
difference in that clients with substance use problems may be better able to access low or free
counselling, compared with other treatment populations, thus rate alliance more highly out of
gratitude (Shick Tryon, et al., 2007). For whatever reason, there appears to be a trend in the
literature which indicates that alliance may be experienced, perceived or simply rated
differently by the substance-using population. This issue is discussed further in sections 2.2.2
and 2.2.3.

### 2.2.2 The relationship between perspectives

In their meta-analysis, Shick Tryon et al. (2007) reported that overall client and therapist
ratings were moderately correlated with each other \(r = .36\). However, they did not comment
on observer ratings of alliance. How closely client and therapist alliance ratings are related in
the substance use field remains equivocal, since the correlation between client and therapist
ratings was found to be much smaller in the subset of studies with substance-using treatment
populations \(r = .24\) (Shick Tryon, et al., 2007). Furthermore, substance use problems were
found to be a significant moderator in the relationship between client and therapist alliance
ratings. There was a much larger discrepancy between clients with substance use problems
and those who were moderately or severely psychologically disturbed, but did not have
substance use disorders. This, however, was not the case with those mildly disturbed (Shick
Tryon, et al., 2007). Moreover, subsequent AOD studies which have reported a significant
association between rater perspectives, suggest the need for caution in drawing conclusions
about this association due to the modest strength of the correlations (Barrowclough, Meier,
Beardmore, & Emsley, 2010; Dundon et al., 2008; Meier & Donmall, 2006). Relatedly,
Project MATCH reported little overlap between variables that predicted therapist versus client
alliance ratings, suggesting that different factors impact on their perception of alliance
(Connors et al., 2000). This finding was consistent with one study with a substance-using
treatment population, which reported they were not related (Calsyn, Klinenberg, Morse, &
Lemming, 2006).
Factors other than treatment population were also found to influence the amount of discrepancy between client and therapists ratings. The length of treatment had a moderating influence, with less discrepancy between client-therapist alliance ratings in longer therapy (21 to 39 sessions) compared with those in shorter term therapy (20 or less sessions). Discrepancies were also larger in CBT compared with psychodynamic therapy and larger for those using WAI measures compared with the HAq (Shick Tryon, et al., 2007).

2.2.3 Rater perspective over time

How alliance ratings change over time depends on the rater perspective. Findings from meta-analysis report that clients’ alliance ratings are more stable during treatment, whereas therapists’ and observers’ show greater changes in their ratings during treatment (Martin, et al., 2000). However, it is still unclear whether this is true for specific treatment populations. In a more recent study of chronic pain in patients with opioid dependence or abuse, both client and therapist ratings of alliance increased over time, but only in clients without a co-morbid alcohol use disorder or in those who had good outcomes (Bethea, Acosta, & Haller, 2008). Thus, as with other areas, the way in which alliance is perceived from different perspectives during the course of treatment may differ for substance-using populations, compared with other treatment groups.

The finding that ratings differ, with clients most often rating alliance highest followed by therapists and then observers signals the need for consideration of the source (independence) of the rater. This is necessary both with respect to the influence which perspective has on alliance ratings and also on the relationship between alliance and outcome (Fenton, et al., 2001). These discrepancies also signal the relevance of the inclusion of more than one source of rating when investigating the alliance-outcome relationship. Further discussion of the influence of rater perspective on the alliance-outcome relationship, including “same source rater” compared with “different rater” of alliance and outcome, is presented later in section 2.5.2.

2.3 Timing of the measurement of alliance

Most research has investigated alliance at a relatively early stage of the client-therapist relationship based, in a large measure, on earlier meta-analytic findings, that early alliance
was a better predictor of outcome (Horvath & Symonds, 1991). Increasingly, however, findings have shown that the strength of alliance differs depending on when it is rated and, as previously stated, how alliance develops over time differs according to the status of the rater. Thus it appears that alliance is often a dynamic rather than a static construct. It does not develop along a simple, linear path from weak to strong (Horvath, et al., 2011; Kivlighan Jr. & Shaughnessy, 2000; Stiles et al., 2004).

Initially research tended to proceed from findings that alliance strengthened across the time in treatment in a steady linear path (Horvath & Luborsky, 1993), and indeed some studies continue to report this pattern with substance-using populations (Barber et al., 2001; Bethea, et al., 2008; Knuuttila, et al., 2012a). In their study with opioid-abusing pain patients, Bethea et al. (2008) reported that both client and therapist ratings of alliance on the HAq increased over eight sessions. Knuuttila et al. (2012a) reported that client and therapist alliance increased over time, this finding based on ratings from a tool developed to assess psychotherapy alliance in Finland. However, since alliance was only rated twice (session 1 and 3), these findings shed light on alliance only in the early phase of treatment, rather than on the pattern of development throughout treatment (Knuuttila, et al., 2012a).

In contrast to the steady state phenomenon, general psychotherapy research has also advocated a curvilinear pattern of alliance development, supported by both theory and empirical findings (Gelso & Carter, 1994). This pattern of alliance was linked with the role therapeutic rupture, or “tear and repair”, was thought to play in alliance. Simply stated, alliance grows until the occurrence of a therapeutic rupture, which results in a decrease in the strength of alliance. Following the successful repair of the rupture, alliance strengthens again. Subsequent investigations to identify different types of alliance development from the client’s perspective revealed that rather than following one pattern there may be several ways in which alliance develops (Kivlighan Jr. & Shaughnessy, 2000; Stiles, et al., 2004). Kivlighan and Shaughnessy (2000) reported on two studies (study 1, n=41 and study 2, n= 38) in which WAI ratings were completed by clients following the first four sessions with a trainee counsellor. Using cluster analysis three distinctly different patterns of development were identified in both studies: linear growth, quadratic growth (analogous to curvilinear) and a stable alliance pattern. In an attempt to see whether these three patterns of alliance development could be replicated, Stiles et al. (2004) analysed data from a clinical trial of psychotherapies for depression (n=79). Alliance was measured based on ratings on the ARM, which was completed after each of the 16 sessions. Four patterns were identified, two of
which were said to show similarities to those reported by Kivlighan and Shaughnessy (2000). The first was characterised by an inverted U shape said to be similar to the earlier mentioned linear growth pattern; the second pattern was characterised by very little slope, similar to stable alliance. Two other patterns were also identified; a shallow negatively sloped U curve and a positive slope, with a negatively accelerating curve, neither of which were said to resemble any of Kivlighan and Shaughnessy’s three patterns (Stiles, et al., 2004). In a Norwegian naturalistic study at an outpatient psychiatric clinic, 201 patients rated alliance using the WAI after sessions 3, 12, 20, and then after every 20th session throughout the therapy (Hersoug, Hoglend, Havik, & Monsen, 2010). Three distinct patterns of development emerged. The majority evidenced a stable pattern (70.1%), almost one quarter showed an improving pattern (23.9%) and a small group had a declining alliance pattern (5.5%).

Differences in the strength of alliance exist during the course of treatment and more than one pattern of alliance development is likely. The pattern of alliance development can be a steady state, a linear or a non-steady non-linear phenomenon. This begs the question as to when and how often alliance should be measured so that it is adequately captured, particularly so that it reliably informs on its relationship with treatment outcome. This issue will be discussed in the following section on methodological issues as regards the alliance-outcome relationship.

### 2.4 Summary

As a full and clear consensus has not been reached regarding the conceptualisation of alliance it is unsurprising that measuring this contentious defined concept has faced challenges regarding what is measured, how it is measured and when it is measured. Notwithstanding these challenges, the concept of alliance has predominantly been assessed by four core families of measures, each of which has good psychometric properties. Whilst the different measures tap into slightly different constructs, it seems the overlap is sufficient for all relate to the concept known as alliance. The assessment of alliance is influenced by rater perspective, with alliance rated most highly by clients. Ratings are also influenced by when they are assessed. This suggests that if possible it would be best to measure alliance from more than one perspective and at more than one timepoint. Furthermore, there are indications that the way in which alliance is rated, perceived or experienced is different in substance-using populations compared to general psychotherapy research populations.
The focus of this dissertation is not only on alliance, but also on the nature of the relationship that alliance has with treatment outcome. Methodological issues pertaining to the independent variable, alliance, have been discussed above; further issues with regard to how alliance relates to the dependent variable will now be discussed.

2.5 Alliance-outcome relationship

As with research concerned with alliance per se, there are a number of methodological considerations that pertain to the investigation of the alliance-outcome relationship, particularly the role of potential moderators in this relationship. These moderators include research design, rater perspective, outcome measures, treatment length and rate of follow-up.

Unfortunately, differences exist in terminology surrounding these concepts, particularly predictors and moderators. It is not always possible to know which definition researchers have applied. For the purposes of this dissertation, the definition of a moderator in the alliance-outcome relationship is based upon Kraemer, Wilson, Fairburn and Agras’s (2002) definition of treatment moderators. As such, moderators must be shown to have an interactive effect on the relationship between alliance and outcome and must be a baseline characteristic or be measured prior to the assessment of alliance. The definition includes both research design variables discussed in this section and sample characteristics (client and therapist) and treatment programme factors, which will be discussed in Chapter Three. The definition is also applicable in the presentation and discussion of findings from the current investigation later in the dissertation.

2.5.1 Research design

To fully understand the role that alliance plays in therapeutic change, we need to be cognizant of the effect that research design features have on the alliance-outcome relationship. Meta-analysis of general psychotherapy research has investigated potential moderators of the alliance-outcome relationship. Meta-analysis enables researchers to aggregate results from studies that have employed different research designs, including utilising diverse measures, with slightly different but interrelated constructs of alliance (one construct as opposed to one with a number of dimensions), various outcome measures, treatment models, lengths of treatment and so forth (Horvath & Symonds, 1991).
Based on meta-analysis of findings from 79 studies, Martin et al. (2000) concluded that “…the relationship did not appear to be influenced by other moderator variables, such as the type of outcome used in the study, the type of outcome rater, the time of the alliance assessment, the type of the alliance rater, the type of treatment provided, or the publication status of the study” (Martin, et al., 2000, p. 438). Subsequent meta-analysis has continued to support this conclusion. Horvath, et al.’s (2011a and 2011b) meta-analysis examined the effect of six potential moderators on the association between alliance and outcome. The authors used a database of 201 studies in which 190 independent samples had been obtained from a potential 7000 articles on the alliance-outcome relationship. Moderators mostly related to research design and included the alliance measure, alliance rater, the time alliance was measured, outcome measure, type of treatment and publication source. There was a large variability in effect sizes in all subsets of data, but only two significant findings. Firstly, with regard to the time of assessment, the closer that alliance was assessed to treatment termination, the larger the alliance-outcome correlation. Secondly, with regard to the outcome measures, there was a significantly greater effect size when the score on the Beck Depression Inventory (BDI) was the outcome compared with when drop-out was the outcome (Horvath, et al., 2011a; Horvath, et al., 2011b).

Flückiger, Del Re, Wampold, Symond and Horvath (2012) conducted further meta-analysis of Horvath et al.’s 2011 dataset, including the role of researcher allegiance and whether disorder-specific manuals were employed. Researcher allegiance was said to exist if the research involved the author(s) in one of the following: an alliance questionnaire, alliance rating system, relationship-focused treatment or therapist training that was included in study. The use of disorder-specific manuals did not have any significant moderating influence on the relationship. However, researcher allegiance did in the early phase of treatment and with regard to how the alliance-outcome relationship developed over the course of treatment. As such, where there was no researcher allegiance, the alliance-outcome relationship was significantly lower in the early phase of treatment (first 5 sessions). However, whilst the alliance-outcome relationship of the group without researcher allegiance increased over time, the other group (with researcher allegiance) remained stable. This resulted in the difference between the two groups disappearing over time.

The demand for methodological soundness and scientific rigour has resulted in alliance research being predominantly conducted in clinical research settings using manualised treatment. In addition, inclusion criteria for meta-analysis have often meant that overall
conclusions have not incorporated research knowledge gained from naturalistic data. These criteria and aspects of research design are important for the comparability of studies and for substantiating the strength of findings and conclusions made. However, the compromise is that most clients do not receive treatment under such standardised conditions, thus limiting the generalizability of findings.

As such there has been an increasing spotlight shone on the influence these design factors have on the relevance of findings for routine clinical practice. With regard to the alliance-outcome relationship it has been argued that the effect size reported from meta-analyses may underrepresent the strength of this relationship, as stronger alliance would be expected in naturalistic settings where a greater emphasis tends to be placed on alliance rather than on specific research protocols (Flückiger, Del Re, Wampold, Symonds, & Horvath, 2012). In response, Flückiger et al.’s (2012) meta-analysis tested the degree to which the alliance-outcome relationship was influenced by the application of a RCT research design. Of the 190 samples, 56 were coded as RCT and this dichotomous variable then analysed using hierarchical linear modelling, in conjunction with other potential moderators. The authors reported that in both single and multi-predictor models the alliance-outcome relationship was not significantly moderated by whether treatment was provided in a RCT (Flückiger, et al., 2012). These findings are supportive of the inclusion of both research designs and strengthen arguments for naturalistic studies being given greater credence. Although this research has methodological limitations, that can render findings suggestive rather than conclusive, they make a valuable contribution through their relevance to everyday practice (Najavits & Weiss, 1994).

The above findings concerned with research design add weight to the robustness of the alliance-outcome relationship. However, whether they apply to the substance use field is generally not stated and cannot be assumed. In particular, as has been noted, the substance-using treatment population is different in some regards from treatment populations in general psychotherapy research. Further scepticism regarding how findings relate to substance-using populations is warranted in that Stirman, DeRubeis, Crits-Christoph and Rothman (2005) stated that findings from general psychotherapy RCT literature may be less relevant. This is because people with substance use disorders are more likely to be screened from participation on the basis of exclusion criteria, compared to potential participants with other psychopathologies (Stirman, DeRubeis, Crits-Christoph, & Rothman, 2005).
Lastly, with regard to research design, there seems to be growing dissent about the dominance of the overarching empirical methodology (Orford, 2008). Critics have challenged the relevance of applying quantitative methods to clients’ subjective experience. This criticism is seen as particularly pertinent in mental health “… since many clinical mental health problems are linked to subjective experiences they cannot be fully appreciated through quantitative analysis alone” (Groleau, Pluye, & Nadeau, 2007, p. 732). There are four specific limitations of empirical research: such studies exclude the meaning and intent underlying human behavior; they are unable to reconcile local views with theoretical ones when there is divergence; they produce generalizations not always applicable to individual cases; and they exclude the element of discovery in the investigation (Whitley, 2007). These shortcomings have driven a move to incorporate mixed method approaches into research. However, for reasons already discussed, as yet moves to investigate alliance using qualitative methods, at least in psychology research, are still very limited.

2.5.2 Rater perspective

2.5.2.1 Source of alliance ratings and outcome

Research on the relationship between alliance and outcome has differed according to whose perspective the alliance or outcome is rated; an independent observer whose decision is inferred from observation or the client or therapist who ratings are influenced by their subjectively different current and historical phenomenological experiences. Initial reviews of alliance research have suggested that client ratings of alliance have a stronger and more predictive relationship with treatment outcomes than do therapist ratings (Horvath & Symonds, 1991) and that the therapist and patient contribution is related to outcome only when rated by the patient (Orlinsky, et al., 2004).

However, this has not always found to be the case in the substance use field (Bethea, et al., 2008; Dundon, et al., 2008; Fenton, et al., 2001). In an investigation of CBT and TSF treatment for clients with cocaine dependence, Fenton et al. (2001) compared six different alliance instruments, four of which were observer measures. The authors reported that all four observer measures of alliance were significantly correlated with outcome, whereas the client and therapist ratings (WAI) were not. Fenton et al. (2001) suggested that this finding may be because observers are less susceptible to situational demands and issues of transference and countertransference which influence the evaluation of alliance. As in Fenton et al.’s (2001) study, mixed findings were also reported by Dundon et al. (2008) in their
investigation into the role of alliance in medically-based interventions treating alcohol dependence. The authors reported that whilst overall therapist ratings appeared predictive of drinking outcome, when analysing by treatment condition this relationship was only significant for the BRENDA condition (a manualized approach designed for the primary care clinician for medication management promoting pharmacotherapy). Therapist ratings were not related to outcome for the CBT or Doctor-only conditions. In respect to client ratings of alliance, there was no significant main effect or intervention effect on drinking outcomes. It has been suggested that the difference between raters in the alliance-outcome relationship in this treatment population may reflect the struggle some clients experience with the tasks and goals of treatment, as delivered by the therapist, which restricts access to reinforcing substances (Dundon, et al., 2008; Meier, Barrowclough, & Donmall, 2005a).

2.5.2.2 Same source versus different source raters of alliance and outcome

When ratings of alliance and ratings of outcome are completed by the same source, i.e. both by the client or both by the therapist, the possibility emerges that the relationship is influenced by a “halo effect”, that is if the client or therapist believes the client has improved, they may rate the alliance more positively and vice versa (Fenton, et al., 2001). Meta-analytic investigations did not find any significant difference in the alliance-outcome relationship when ratings of both alliance and treatment outcome had been completed by the same person (e.g. therapist) compared with when they were completed by people in different roles (e.g. alliance by an independent observer and outcome by the therapist) (Horvath, et al., 2011; Martin, et al., 2000). The more recent analysis did note that, over time, the difference in the effect size for the alliance-outcome relationship of same source raters, when compared to different source of raters, showed an increasing trend towards significance (Horvath, et al., 2011).

Firm conclusions surrounding same source raters may be premature. This may be even more the case in AOD research, since earlier meta-analysis has reported that the subset of substance use studies employed alliance measures and outcome indices that were atypical to those in other studies (Horvath & Bedi, 2002). This may account for Fenton et al.’s (2001) findings differing from general psychotherapy findings, as neither client nor therapist same source ratings of alliance and outcome were significantly related. Fenton et al.’s (2001) findings may also be linked to results from meta-analysis that report a greater discrepancy between client and therapist ratings of alliance in substance-using populations compared to other
psychopathologies (Shick Tryon, et al., 2007), as well as other unique factors inherent in this treatment population.

2.5.3 Pattern of alliance development - when to assess and how often

As discussed, differences in the strength of alliance exist during the course of treatment and more than one pattern of alliance development is likely (refer section 2.3). It would seem that different alliance pattern typologies play different roles in the alliance-outcome relationship. Undoubtedly constraints in research result in one single measure being obtained or reported. These constraints are likely to continue. This begs the question as to how reliable a single measure of alliance is, and when and how often alliance should be measured, so that it is adequately captured and is reliable in informing on its relationship with treatment outcome. Furthermore, if constraints are placed on research, what would be the best single timepoint to measure alliance with regard to informing on outcome.

A recent study by Crits-Christoph, Gibbons, Hamilton, Ring-Kurtz and Gallop (2011) goes some way towards answering these questions. In their study 45 clients completed the CALPAS after each of the 16 sessions of psychotherapy for a major depressive disorder. Two additional samples were compared with this group to test the reliability of the generalizability coefficients. This resulted in a combined sample size of 236 clients and 30 therapists (the CALPAS was administered after sessions 2, 5, 10 and 15 in study one and sessions 2, 5, and 10 in study two). The authors reported that aggregated measures of alliance, taking into account the typical level of alliance across multiple sessions, were substantially better predictors of outcome at termination than a single timepoint measure of alliance. This finding challenged prior findings on the superiority of earlier measures as better predictors of outcome (Horvath & Symonds, 1991). Crits-Christoph et al. (2011) found that when alliance was aggregated it accounted for 14.7% of variance in outcome compared with 4.7% of variance accounted for when alliance was measured at a single timepoint. This indicated that a single timepoint measure may represent a substantial underestimate of the alliance-outcome relationship. Based on their analysis the authors stated measures from a minimum of two sessions were necessary to achieve a consistently good client level generalizability coefficient (.80 or above) and four sessions to achieve a consistently very good client level generalizability coefficient (.90 or above). It was also suggested that averaging measures across sessions could cancel out the temporal effects related to ruptures and repairs. Furthermore, in investigating the alliance outcome relationship, Crits-Christoph et al. (2011)
advised aggregating earlier measures as scores obtained later in treatment (sessions 10 to 16) were more likely confounded by the influence of prior symptom change (Crits-Christoph, Gibbons, Hamilton, Ring-Kurtz, & Gallop, 2011). This finding is consistent with that of Horvath and Bedi (2002), that an “early” alliance measure was a better predictor of outcome compared to mid (Horvath & Bedi, 2002), and with their previous meta-analytic findings (Horvath & Symonds, 1991). The issue of prior symptom change is discussed in much greater depth in section 3.2.5.1.3.

It is important to note that Crits-Christoph et al. (2011) only examined alliance after session three, this decision was based on the belief “…there was an increased likelihood that patient ratings of the alliance were influenced more by the evolving therapeutic interactions (as relevant to agreement on goals and tasks and the therapeutic bond) than by predisposing client factors and reporting biases (tendency to be more positive or negative in self-report) that might be more evident in Session 1 or Session 2 ratings” (Crits-Christoph, et al., 2011, p. 271). However, others have commented that this timing misses a crucial group of clients, the early drop-outs (Meier, Barrowclough, et al., 2005a), who are of particular relevance in substance use treatment, given retention issues.

Overall, these findings have led to a growing acknowledgement that the ways in which alliance changes during treatment, and the influence it may continue to have after treatment, places another layer on the lens through which existing and new alliance-outcome research should be viewed.

2.5.4 Outcome measures

The alliance-outcome relationship has been investigated with regard to various outcome measures, including disorder specific and global measures. In so far as alliance is a non-specific treatment factor it has been claimed that it is likely to exert a greater influence on global outcomes than on symptom specific outcomes. The latter are thought to be more closely linked to treatment specific factors, i.e. techniques (Flückiger, et al., 2012). However, in their meta-analysis Flückiger et al. (2012) reported that the degree to which disorder-specific outcome measures were utilised as opposed to global outcome measures did not significantly impact on the overall effect size of the alliance-outcome relationship. As yet, this has not been tested in substance use research.
A number of issues need to be raised concerning the use of outcome measures in the substance use field. In this area of research different types of outcomes have been studied. These include substance-specific outcomes such as abstinence, time to relapse, intensity-frequency composites (e.g. number of heavy drinking days), substance-related problems, dependency severity (more closely related to diagnostic criteria) and global outcomes pertaining to broader physical, psychological and social functioning. In addition, engagement and retention in treatment have been examined as outcomes. Recommendations to use drinking frequency and intensity (per cent days abstinent, PDA, and drinks per drinking day, DDD) as primary outcome measures mean that these have tended to be favoured measures in alcohol research, particularly in major studies such as Project MATCH, UKATT and COMBINE. Several factors support their use. They have been found to be sensitive to change, independent of each other (Barbor et al., 1994) and good predictors of outcome (Adamson, Sellman, & Frampton, 2009). Other advantages are that the same measure can be employed repeatedly throughout the study (baseline, treatment, and follow-up) and their popularity enhances comparability with other research findings. For similar reasons, frequency-intensity composite measures have also been employed, although the specific composite measure may differ across studies. In contrast, measures of alcohol-related problems have not been found to be successful predictors of later change (Adamson, et al., 2009) and have been less frequently used in substance use research.

The use of global measures of outcome are also supported, as a linear relationship has been found between improvement in drinking status and concurrent improvement in physical, psychological and social functioning (Barbor, Dolinsky, Rounsaville, & Jaffe, 1988). Information provided through these global measures indicates that their inclusion has the potential to inform on additional relevant improved areas of functioning, outcomes which otherwise would not have been be captured by using substance specific measures (Adamson, 2003).

It has been argued that findings within the subset of substance use research differ from the bulk of general psychotherapy research, due to the use of more stringent diagnostic criteria. AOD studies aim to alleviate or change a (mostly) diagnosed pathology, with psychotherapy studies not generally requiring diagnosis for inclusion. This diagnostic focus dictates that there are specific outcomes linked with changes to addictive behaviour identified as (part of) the pathology of AOD dependence or abuse. The primary outcome variables studied in substance use investigations are objective measures (PDA, DDD, biochemical analysis).
These contrast with the majority of other outcome measures, which are based on subjective assessments of mood and wellbeing e.g. BDI (Cecero, et al., 2001). Although substance use data is often gathered via self-report, these reports have been found to be both reliable and valid in measuring outcome (Barbor, et al., 1994; Maistro, McKay, & Connors, 1990). Such influences may help explain why it is that in addiction literature, where objective measures are available (e.g. biochemical markers), relationships between client and therapist ratings of alliance and outcome have been weaker in comparison to general psychotherapy literature, which tends to utilise more subjectively based measures of outcome. There may be a connection between the weaker association and the finding that the more objective outcome measures are less susceptible to the halo effect, as discussed in section 2.5.2.2.

In summary, the relationship between alliance and outcome in general psychotherapy literature is clear regardless of the specificity of the outcome measure. Questions remain about how generalizable this finding is to substance-using treatment populations, particularly given that elsewhere this subset has been shown to distinctly differ from those in general psychotherapy research (Horvath, et al., 2011; Shick Tryon, et al., 2007). What is known is that those outcomes pertaining to levels of substance use are preferable compared to those measuring substance-related problems and that including of measures of global functioning is also warranted. Lastly, diagnostic and other measures used in the AOD field provide more objective markers of change. This may be linked to divergent findings with the substance-using treatment population subset compared to other treatment populations.

2.5.5 **Length of follow-up**

In common with other medical disorders, substance dependence is a chronic disorder and often follows a chronic relapsing pattern. This raises the question as to when to assess outcome and what this means to findings. Outcome research has included measures of short-term goals such as detoxification, cessation of heavy drinking and improvements in acute health problems. Longer term outcomes are often more wide-ranging and have been assessed at the end of treatment, with follow-up generally ranging from 3 to 18 months post treatment termination. However, given the chronicity of the condition, in more recent years it has been argued that evaluations, focused on long term outcomes following time-limited treatment, may be based on unrealistic views of what treatment can achieve (McLellan, 2002). In light of this argument, and the chronic relapsing pattern of substance dependence, cognizance of this...
parameter is crucial. All one can reliably state is how alliance relates to treatment outcome at the specific timepoint(s) outcome is being measured.

2.5.6 Follow-up rates

In conjunction with the issue of the length of follow-up is consideration of those biases relating to the participants unable to be followed up or who drop-out. Most investigations’ protocols are designed to minimise drop-outs. Minimum follow-up rates of between 70-80% are recommended to eliminate follow-up bias (Bale, Arnoldussen, & Quittner, 1984). Explicit reporting on follow-up rates and key variables, comparing those who drop-out of treatment to those who remain, is important when presenting findings.

2.6 Summary

In summary, when investigating the influence of alliance on outcome it is not yet possible to make firm conclusions as to whether a specific raters perspective or same source or different raters of alliance and outcome are best in substance use research. It is clear, however, that the alliance and outcome variables should be rated from more than one perspective. Research suggests that it is preferable to measure alliance at more than one timepoint and that earlier measures, including when multiple measures are being aggregated, are preferable to avoid contamination from early symptom change. A range of outcome measures is available and the inclusion of those relating to patterns of use is advised.
CHAPTER THREE: LITERATURE REVIEW

This dissertation focuses on the role of early alliance in treatment outcome in a treatment population with problematic substance use and depression, one of the most commonly experienced co-existing disorders. There is a range of client, therapist and programme factors that have been found to be associated with alliance and which, in turn, may have an impact on the alliance-outcome relationship. To better contextualise the alliance-outcome relationship a review of these variables associated with alliance is first provided, focusing on those variables most relevant to the study. This is followed by a review of research about the alliance-outcome relationship.

To allow for a more efficient flow of text, brief details on the research design for original investigations are included in the first instance only. For easy reference a summary of these details are provided in Table 1 (p. 42).

3.1 Alliance

A number of client, therapist and programme characteristics have been found to be associated with alliance or, where design permits, are considered to predict alliance. As the current study involves participants with co-existing alcohol dependence and depression, the review where possible focuses on research with substance-using and depressed treatment populations. Limited comment is made on general psychotherapy findings.

3.1.1 Client characteristics

Even when inclusion in clinical trials is on the basis of a specific diagnosis, clients are not homogenous. Differences exist within the disorder, such as how diagnostic criteria manifest, as well as with a range of other demographic, psychological and social factors. These differences may in turn impact on the alliance with the therapist.
<table>
<thead>
<tr>
<th>Author(s) &amp; treatment population</th>
<th>Subjects</th>
<th>Pathology</th>
<th>Treatment</th>
<th>Alliance measures</th>
<th>Outcome measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arnow et al. (2007) D</td>
<td>N=681 male and female age range =18-75yrs</td>
<td>Major Depressive Disorder (MDD) Excluded if the principal diagnosis is substance use disorder, anxiety or a range of other disorders and for medical issues</td>
<td>12 weeks, 3 conditions  • Medication only (nefazadone)  • CBT twice weekly for 1st 4 weeks; weekly for weeks 5-12  • CBT (as above) + medication</td>
<td>WAI client (abbreviated) Only for those receiving CB therapy  At week 2 (3rd and 4th session)</td>
<td>SCID &amp; Social Adjustment Scale (baseline)  HRSD (baseline &amp; weeks 2 &amp; 4)</td>
</tr>
<tr>
<td>Barber et al. (2000) D</td>
<td>N=88 54% female X age =39yrs</td>
<td>MDD, Generalized Anxiety Disorder (GAD) or Avoidant or Obsessive Compulsive Personality Disorder (PD): (DSM-IV) Excluded if bipolar or substance use disorder or if psychotic symptoms</td>
<td>Supportive expressive dynamic therapy (weekly), 3 conditions  • GAD received 16 sessions + 3 booster  • MDD received 20 sessions  • PD received 52 sessions</td>
<td>CALPAS client  After session 2, 5, 10 &amp; each following 5th session</td>
<td>BDI (21 item) before each session</td>
</tr>
<tr>
<td>Barber et al. (2001) NIDA Cocaine Treatment Study SU</td>
<td>N=308 79% male X age =54 yrs</td>
<td>Cocaine dependent outpatients (DSM-IV) Excluded if principal diagnosis alcohol, opioid or polysubstance dependence, if psychotic symptoms, history of bipolar disorder and/or a risk of imminent suicide or homicide</td>
<td>6 months, 4 conditions. Indiv therapies twice weekly months 1-3 and weekly months 4-6; group session weekly  • Supportive expressive therapy  • Cognitive therapy  • Indiv. counselling (TSF)  • Group couns/psychoeducation (TSF)</td>
<td>CALPAS &amp; HAqII client After end of sessions 2 &amp; 5</td>
<td>Addiction Severity Index (ASI), Psychiatric severity composite score &amp; Socialisation score of California Personality Inventory  All assessed at intake, monthly during treatment and then at 3 and 6 months follow-up</td>
</tr>
<tr>
<td>Belding et al. (1997) SU</td>
<td>N=57 95% male X age =44yrs</td>
<td>Eligibility for Methadone Maintenance Therapy (MMT)</td>
<td>9 months. Min of weekly session with methadone counsellor  Contingency management</td>
<td>HAq client &amp; therapist  At 4 &amp; 12 weeks after admission</td>
<td>ASI at 3 &amp; 6mths after admission  Urine analysis twice weekly</td>
</tr>
<tr>
<td>Bethea et al. (2008) SU</td>
<td>N=25  56% male X age =41yrs</td>
<td>Chronic pain &amp; opiate dependence/abuse (DSM-IV) Excluded if specific psychiatric or medical condition</td>
<td>12 weeks, 8 sessions Counselling based on adherence strategies &amp; supportive psychoeducation</td>
<td>HAq client &amp; therapist After each session</td>
<td>Outcome algorithm based on changes in pain based on Visual Analogue, medication adherence. Substance use based on urine analysis (each aspect assessed after each session)</td>
</tr>
<tr>
<td>Calsyn et al. (2006) SU</td>
<td>N=115 75% male X age =59yrs</td>
<td>Homeless with a severe mental illness and a substance use diagnosis (DSM-IV) (40% alcohol only; 18% had a drug-only diagnosis and 42% had both alcohol and drug disorders)</td>
<td>Ongoing treatment with unlimited contact, 2 conditions  • Intensive case management  • Assertive community treatment and integrated treatment</td>
<td>WAI client &amp; case manager, short form (10 items) At 3 &amp; 15 months</td>
<td>Monthly assessment of the following: Number of stable housing days Brief Psychiatric Rating Scale Severity of substance use (5 point scale) RCQ</td>
</tr>
<tr>
<td>Carroll et al. (1997) SU</td>
<td>N=103 73% male X age =29yrs</td>
<td>Cocaine dependence (45% lifetime diagnosis alcohol dep) (DSM-III-R) Excluded if lifetime diagnosis for Axis I disorder other than depression or anxiety or if received treatment for any other psychotic disorder in the last 2 months</td>
<td>12 weeks, 4 conditions with weekly sessions  • CBT+ medication (desipramine);  • Case Management (CM)+medication  • CBT+ placebo  • CM + placebo</td>
<td>VTAS observer rated  At session 2</td>
<td>ASI &amp; urinanlysis (baseline, weekly and post treatment)</td>
</tr>
</tbody>
</table>

* SU = substance use; D = depression; a = details of mean age or gender not available
<table>
<thead>
<tr>
<th>Study Authors</th>
<th>Year</th>
<th>Sample Description</th>
<th>Sample Size</th>
<th>Gender</th>
<th>Mean Age</th>
<th>Exclusion Criteria</th>
<th>Treatment Conditions</th>
<th>Outcome Measures</th>
<th>Follow-up</th>
<th>Notes</th>
</tr>
</thead>
</table>
| Connors et al. (1997) Project MATCH | 1997 | 698 outpatient 71% male; mean age 39yrs | 698 | 71% | 39yrs | Alcohol dependence or abuse (mostly dependence) (DSM-III-R) Excluded if dependent on sedatives, hypnotics, opiates, stimulants, cocaine, if IV use in last 6 months, if danger to self or others, if on parole or probation, residential instability, or in other alcohol treatment, except self-help e.g. A.A. | 12 weeks, 3 conditions  
- CBT – 12 sessions  
- TSF – 12 sessions  
- MET – 4 sessions | WAI client & therapist After 2nd session | 12 months | Alcohol Use Inventory; SCID (alcohol section), Form -90 (combined with TLFB) Assessed 3, 6, 9, & 12 months after end of treatment |
| Connors et al. (2000) Project MATCH | 2000 | 707 outpatient 71% male; mean age 39yrs | 707 | 71% | 39yrs | Alcohol dependence/abuse (DSM-III-R) Exclusion criteria as per Project MATCH, refer Connors et al. (1997) above | 12 weeks, 3 conditions  
- CBT – 12 sessions  
- TSF – 12 sessions  
- MET – 4 sessions | WAI client & therapist After 2nd session | 12 months | ASI, Form-90 Drinking behav, URICA-R, Drinker Inventory of Consequences, State-Trait Anxiety Expression scale, Alcohol Abstinence Self-efficacy score Assessed at baseline |
| Crits-Christoph et al. (1999) NIDA Cocaine Treatment Study | 1999 | 487 79% male; mean age 34yrs | 487 | 79% | 34yrs | Cocaine dependence (DSM-IV) Exclusion criteria as per Barber et al. (2001) above | 6 months, 4 conditions.  
- Supportive expresssive therapy  
- Cognitive therapy  
- Individual drug counselling (TSF)  
- Group drug couns/psychoeducation (TSF) | HAq & CALPAS client & therapist After session 2 & 5 | 12 months | ASI, self-report, urinanalysis, Californian Psychological Inventory, HRSD, Beck Anxiety Index Brief Symptom Inventory Assessed at intake, monthly during treatment, and months 9, 12, 15 & 18 after randomization |
| Crits-Christoph et al. (2009) | 2009 | 257 72% male; mean age 36yrs | 257 | 72% | 36yrs | Substance dependence or abuse (62 % alcohol) Excluded if psychiatrically unstable | 28 day treatment period, 2 conditions  
- MET - 3 sessions  
- Counselling as Usual – 3 sessions | HAq client After 2nd session | 12 months | Substance use calendar every session & 16 weeks following randomization |
| Cunningham et al. (2007) SU | 2007 | 172 74% male; mean age 40yrs | 172 | 74% | 40yrs | Homeless with severe mental health illness & substance use disorder (DSM-IV) Excluded if currently in intensive case management program | Monthly interviews for 18 months: 2 conditions  
- Assertive Community Treatment  
- Integrated which included substance use specialists | WAI client 12 item After 3 &15 months | Monthly | Brief Psychiatric Rating Scale at baseline, 9 & 18mths Monthly assessment of number of days used substances |
| De Weert-Van Oene et al. (2001) SU | 2001 | 93 18% female; mean age 38yrs | 93 | 18% | 38yrs | Inpatients of short-term unit of addiction treatment facility Excluded if entering for crisis intervention only | Crisis intervention, detoxification, assessment and referral and motivation enhancement for further treatment | HAq client-rated One week after admission | 12 months | ASI, Texas Christian University-Motivational scales Intention to complete scale Assessed baseline & 2 weeks |
| Dundon et al. (2008) SU | 2008 | 194 74% male; mean age 44yrs | 194 | 74% | 44yrs | Alcohol dependent (DSM-IV) Excluded if dependent on other substance (other than nicotine), if on psychototropic drugs, or if mentally or physically unstable | 24 weeks, 3 conditions, all naltrexone  
- Medication only  
- Medication + intervention to promote adherence (BRENDA)  
- Medication + CBT | WAI client & therapist After 3rd Session | 24 weeks | TLFB at each session during 24 weeks of treatment |
| Feeley et al. (1999) D | 1999 | 25 88% female; mean age 33yrs | 25 | 88% | 33yrs | MDD with a BDI score of 15 or greater | 12 week treatment, 2 conditions max of 20 sessions  
- Cognitive therapy (CT)  
- CT & medication ( imipramine) | Penn Helping Alliance observer rated At each session | One session | BDI baseline & prior to each session Therapists adherence to therapy specific techniques & facilitative conditions Session 2 & one session weeks 7-9 & one session weeks 10-12 |
| Fenton et al. (2001) SU | 2001 | 46 74% male; mean age 44yrs | 46 | 74% | 44yrs | Cocaine or alcohol dependence or abuse (DSM-III-R) Excluded if history of psychotic or manic episodes, or if suicidal or homicidal | 12 weeks, 2 conditions, weekly sessions  
- CBT  
- TSF | WAI client & therapist After 3rd session | Weekly | Weekly assessments including number of abstinent days and urinanalysis |
<table>
<thead>
<tr>
<th>Study</th>
<th>Authors</th>
<th>Sample Size</th>
<th>Gender</th>
<th>Age</th>
<th>Inclusion Criteria</th>
<th>Exclusion Criteria</th>
<th>Treatment Conditions</th>
<th>Outcome Measures</th>
<th>Follow-up</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hartzler et al. (2011) COMBINE study (secondary analysis)</td>
<td>SU</td>
<td>N= 1,383 69% male. Median age =44yrs</td>
<td></td>
<td></td>
<td>Problematic alcohol use. Excluded if dependent on a drug other than alcohol, nicotine, or cannabis; if recent opioid use; or for relevant medication or medical issues.</td>
<td>16 weeks, 9 conditions including Medication management (MM): • CBT + MM • CBT only</td>
<td>WAI client bond scale</td>
<td>After 4 weeks</td>
<td>Alcohol Abstinence Self-efficacy scale (baseline and 16 weeks) Form-90 interviews, Drinker Inventory of consequences, Brief Symptom Inventory (baseline and 1 year post treatment)</td>
<td></td>
</tr>
<tr>
<td>Ilgen &amp; Moos (2005) Project MATCH</td>
<td>SU</td>
<td>N=912 outpatient N=733 aftercare Age and gender similar to Connors et al. (1997)</td>
<td></td>
<td></td>
<td>Alcohol dependence or abuse (DSM-III-R) Exclusion criteria as per Connors et al. (1997) above</td>
<td>16 weeks, 9 conditions including Medication management (MM): • CBT + MM • CBT only</td>
<td>WAI client and therapist</td>
<td>After 2nd session</td>
<td>ASI, Form-90 Drinking Behaviour Drinker inventory or consequences URICA-R, BDI Assessed at 3 month follow-up</td>
<td></td>
</tr>
<tr>
<td>Ilgen et al. (2006) Project MATCH</td>
<td>SU</td>
<td>Project MATCH outpatients N=785</td>
<td></td>
<td></td>
<td>Alcohol dependence or abuse (DSM-III-R) Exclusion criteria as per Connors et al. (1997) above</td>
<td>16 weeks, 9 conditions including Medication management (MM): • CBT + MM • CBT only</td>
<td>WAI client and therapist</td>
<td>After 2nd session</td>
<td>Form-90 Drinking Behaviour, DDD, PDA,URICA, Alcohol Use Inventory Severity of Alcohol Involvement Assessed at baseline, 6 &amp; 12 months</td>
<td></td>
</tr>
<tr>
<td>Joe et al. (1999) DATOS</td>
<td>SU</td>
<td>N= 3209 65% male X age=33yrs</td>
<td></td>
<td>Admission to drug treatment programmes as part of DATOS</td>
<td>3 treatment settings: • Long term residential • Outpatient MMT • Outpatient drug-free</td>
<td>3 variables derived from one month interview: rapport with counsellor &amp; confidence in and commitment to treatment</td>
<td>SCL90, drug use, and treatment experiences and perceptions Interviews at the end of 1st and 3rd months &amp; 12 months post treatment</td>
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<tr>
<td>Klein et al. (2003)</td>
<td>D</td>
<td>N=455 CBT: 63% female X age =44yrs CB+med; 71% female X age =45yrs</td>
<td></td>
<td>MDD (DSM-IV) Excluded of SU disorder in past 6mnths; history of bipolar, psychotic symptoms and a range of other psychiatric issues in past 12mnths and if poor response to 2 types of medication/therapy in last 3 yrs</td>
<td>12 weeks, 2 conditions in current analysis (X= 16 sessions): • CBT • CBT+ medication (nefazadone )</td>
<td>WAI client (12 item) After weeks 2, 6 and 12</td>
<td>HRSD (depression) Assessed at baseline, weeks 1 &amp; 2 and then every following 2 weeks during treatment</td>
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<tr>
<td>Knuuttila et al. (2012a &amp; b)</td>
<td>SU</td>
<td>N=327 66%male X age=34yrs</td>
<td></td>
<td>Substance using outpatients</td>
<td>5 sessions Routine clinical treatment; eclectic including MI, CBT &amp; Solution focused</td>
<td>Alliance client-rated single item measure at 1st and 3rd session</td>
<td>Client satisfaction at 6 month follow-up PDA at 6 months Retention = attended 5th session</td>
<td>HRSD &amp; BDI Baseline and termination</td>
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<tr>
<td>Krupnik et al. (1996) TDCRP data</td>
<td>D</td>
<td>N=225 70% female X age =35 yrs</td>
<td></td>
<td>MDD Excluded if sociopathic, concurrent treatment, physically ill or if suicidal</td>
<td>16 weeks, 4 conditions (16-20 sessions): • IPT • CBT • Imipramine + CM • Placebo + CM</td>
<td>VTAS observer Sessions 3, 9, &amp; 15 Early &amp; average alliance measure used</td>
<td>HRSD &amp; BDI Baseline and termination</td>
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<tr>
<td>Long et al. (2000)</td>
<td>SU</td>
<td>N=188 64% male X age =45 yrs</td>
<td></td>
<td>Alcohol dependence (ICD-10)</td>
<td>Both inpatient and day treatment Individual CBT and group therapy</td>
<td>WAI client Patient Treatment Evaluation Q During treatment</td>
<td>Comprehensive Drinkers Profile SCQ-39, GHQ-12, Expectations Q, Client Satisfaction Q (assessed at baseline) Follow-up Drinkers Profile at 12 months</td>
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<tr>
<td>Luborsky et al. (1985)</td>
<td>SU</td>
<td>N=110 18-55yrs males X age =45 yrs</td>
<td></td>
<td>Drug dependent and on MMT (43% MDD) Excluded if nonpsychotic, non-organic brain damage</td>
<td>3 conditions, 12 sessions: • Case management • CBT • Supportive-expressive therapy</td>
<td>HAq client &amp; therapist After 3rd session</td>
<td>BDI, ASI Assessed at baseline and 7 month follow-up</td>
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<tr>
<td>McCabe &amp; Priebe (2003)</td>
<td>SU &amp; D</td>
<td>4 groups including N=249 alcohol; 44% female; X age =40yrs N=42 dep; 100% female; X age = 42yrs</td>
<td></td>
<td>Schizophrenia, depressive disorder, alcohol dependence (ICD-10)</td>
<td>Impatient setting with routine psychiatric care</td>
<td>HAq client, modified 3 items only During treatment</td>
<td>Brief Psychiatric Rating Scale, Berlin Needs Assessment Scale (self-rated needs for care) Assessed at baseline &amp; 18 month follow-up</td>
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<tr>
<td>Study</td>
<td>N</td>
<td>Gender</td>
<td>Age (Median)</td>
<td>Diagnosis/Exclusion Criteria</td>
<td>Treatment Duration</td>
<td>Outcome Measures</td>
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<td>Meier et al. (2005b)</td>
<td>SU</td>
<td>187</td>
<td>31yrs</td>
<td>Drug dependent, Excluded if primary focus alcohol, gambling or eating</td>
<td>3 residential treatment settings</td>
<td>WAI client &amp; therapist Completed weekly Analysis of weeks 1 &amp; 3, ASI/Psyc Scale, Client Evaluation of Self &amp; Treatment, Coping Behaviour Inventory, Relationship Q, Treatment confidence &amp; expectations Q Assessed at baseline</td>
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<tr>
<td>Öjehagen et al. (1997)</td>
<td>SU</td>
<td>35</td>
<td>37yrs</td>
<td>Attendees at hospital outpatient alcohol treatment programme</td>
<td>24 sessions over 1-2 years, 2 conditions</td>
<td>HAq observer At 3rd Session, Number of days &gt;4 drinks or &gt;6 drinks if occasional drinking Swedish Mood Adjective Check List Assessed at baseline, 6, 12 &amp; 36 months</td>
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<tr>
<td>Priebe &amp; Gruyters (1993)</td>
<td>SU</td>
<td>72</td>
<td>44yrs</td>
<td>Severe and chronic mental illness (2/3 schizophrenic) Clients seen consecutively within a 4 week period by their case manager</td>
<td>Ongoing; to date 20 months Eclectic, case management approach</td>
<td>Client asked 5 questions regarding helping alliance Timing not specified. Hospital Index axis, Work Index axis, Axis measure change Baseline &amp; 20 month follow-up</td>
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<tr>
<td>Raytek et al. (1999)</td>
<td>SU</td>
<td>90</td>
<td>39yrs</td>
<td>Male in couple had alcohol problem Excluded if other drug dependence, if psychotic or organic impairment or if female partner had AOD dependence</td>
<td>Alcohol Behavioural Marital Therapy RP + ABMT 15 x 90 minute sessions</td>
<td>VTAS observer 1st session only, Drinking assessed at baseline, monthly &amp; 6 month follow-up</td>
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<td>Ritter et al. (2002)</td>
<td>SU</td>
<td>119</td>
<td>37yr</td>
<td>Alcohol dependence (DSM-IV) Excluded if any mental / physical instability</td>
<td>3 week CBT relapse prevention group programme</td>
<td>BL-R1 &amp; Counselor rating form both client-rated At end of 3 weeks Brief Drinkers Profile, BDI, STAI, WAIS-R, SCQ, Relationship Inventory Assessed at end of treatment Drinkers profile at 3 month follow-up</td>
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<td>Ryan et al. (1995)</td>
<td>SU</td>
<td>98</td>
<td>37yr</td>
<td>Outpatients at AOD treatment unit Excluded if detoxification necessary</td>
<td>3 month CBT relapse prevention group programme</td>
<td>Outpatients at alcohol &amp; drug treatment unit based on 8 weeks treatment Nil Treatment Motivation Q (baseline), BDI, Short MAST, Alcohol Expectancy Q, Clinical Rating Form, blood alcohol level. Assessed at baseline &amp; 8 week follow-up</td>
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<td>Stiles et al. (2004)</td>
<td>D</td>
<td>79</td>
<td>41yrs</td>
<td>Depression Excluded if history of psychiatric disorder or due to medication issues</td>
<td>8 or 16 sessions</td>
<td>ARM client After each session BDI, SCL-90, Social Adjustment Scale, Self Esteem Index Assessed at baseline and end of treatment</td>
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<tr>
<td>Tonigan. (2003) Project MATCH</td>
<td>SU</td>
<td>952</td>
<td></td>
<td>Alcohol dependence or abuse (DSMIII-R) (mostly dependence with alcohol the primary substance)</td>
<td>12 weeks; 3 conditions</td>
<td>WAI client and therapist After 2nd session Brief Drinkers Profile, SCID-I, BDI, STAI, WAIS-R, SCQ, Relationship Inventory Assessed at end of treatment Drinkers profile at 3 month follow-up</td>
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<tr>
<td>Trepka et al. (2004)</td>
<td>D</td>
<td>30</td>
<td>34yrs</td>
<td>MDD (DSM-IV) Min of 18+ on BDI</td>
<td>12-20 weekly sessions of 30 minutes Cognitive therapy</td>
<td>CALPAS client, each session &amp; ARM client, at session 1, 2, 3, 7 &amp; 12 Cognitive Therapy Scale (competence), BDI. Assessed pre-treatment, at each session and at 3 month follow-up</td>
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<tr>
<td>Tunis et al. (1995)</td>
<td>SU</td>
<td>41</td>
<td>41yrs</td>
<td>Opiate dependent, minimum of 90 days on MMT</td>
<td>6 months Low intensity vs high intensity psychosocial treatment</td>
<td>CALPAS client 90 days into treatment and monthly thereafter Urinalysis &amp; self-reported drug use Assessed at 90, 120, 150 &amp; 180 days</td>
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<td>UKATT Research Team (2005)</td>
<td>SU</td>
<td>742</td>
<td>41yrs</td>
<td>Alcohol dependence. Excluded if alcohol not primary substance, or if psychotic, physically or mentally unstable</td>
<td>12 weeks, 2 conditions</td>
<td>Nil APQ, LDQ, SF-36, GHQ, Quality of life measure, PDA, DDD, LFT Assessed baseline, 3 &amp; 12mths</td>
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<tr>
<td>Zuroff &amp; Blatt (2006)</td>
<td>D</td>
<td>191</td>
<td>35yrs</td>
<td>MDD Excluded if bipolar/psychotic symptoms</td>
<td>16 weeks; 4 conditions (16-20 sessions)</td>
<td>Vanderbilt observer At sessions 3, 9 &amp; 15 BL-RI, HRSD, BDI, GAS Assessed at 4, 8, 12 &amp; 16 weeks in treatment and at 6, 12, 18 month follow-up</td>
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Note: SU = Single Use, D = Double Use
3.1.1.1 Demographic variables

Findings regarding the capacity of demographic variables to predict alliance in the substance use field are mixed. Five variables have been found not to be predictive of the strength of alliance: first, client gender (Belding, Iguchi, Morrall, & McLellan, 1997; Calsyn, et al., 2006; De Weert-Van Oene, Schippers, De Jong, & Schrijvers, 2001; Dundon, et al., 2008; Öjehagen, Berglund, & Hansson, 1997); second, race (Belding, et al., 1997; Meier, Donmall, Barrowclough, McElduff, & Heller, 2005b); third, age (Belding, et al., 1997; De Weert-Van Oene, et al., 2001; Meier, Donmall, et al., 2005b); fourth, level of education (Meier, Donmall, et al., 2005b); and lastly, marital status and employment (Öjehagen, et al., 1997). Conversely, in Project MATCH, higher therapist alliance ratings in both outpatient and aftercare groups were positively predicted by the client being female (Connors, et al., 2000). The opposite gender effect was reported by Meier, Donmall, Barrowclough, McElduff and Heller (2005b). With regard to age in Project MATCH, client ratings of alliance were positively predicted by client age in the outpatient group (Connors, et al., 2000). Also, client educational level negatively predicted outpatient client alliance ratings, although this was not found to be the case for the aftercare group. It has also been reported that therapists rated alliance more favourably with their Methadone Maintenance Treatment (MMT) clients who had more education (Belding, et al., 1997).

Ethnic distinctions within countries and local environments, within the composition of treatment programmes and settings, and within the substance that is the primary problem need to be taken into account when applying findings to a local context. Despite this, little specific investigation has occurred with regard to the role ethnicity or race has with alliance (or the alliance-outcome relationship). Using Project MATCH data, Tonigan (2003) compared client ratings of alliance between the three main ethnic groups, 80% of both outpatient and aftercare were White, 15% of aftercare and 4% of outpatient were Black and 4% of aftercare and 12% of outpatient were Hispanic. Ethnic groups did not significantly differ on client ratings on the goal and bond subscales of the WAI. However, both Hispanic and Black client groups rated the task component of the WAI significantly higher than the White group (Tonigan, 2003). Ethnicity has been linked to treatment drop-out in substance-using populations (Beynon, McMinn, & Marr, 2008), depressed populations (Arnow et al., 2007) and community mental health treatment populations (Sue, McKinney, & Allen, 1976). Also, it has been suggested that the relationship between ethnicity and drop-out may be mediated by alliance (Castonguay, et al., 2006). These findings suggest this is an area that warrants further inquiry.
In summary, whilst Meier et al. (2005a) found that demographic features did not predict alliance, the range of contrasting findings discussed indicates it may be premature to make firm conclusions.

3.1.1.2 Diagnostic variables and symptom severity

A review of general psychotherapy research has reported that the severity of symptoms had only a small impact on the development of a good alliance (Horvath & Luborsky, 1993), whereas findings in substance use research, by contrast, have been mixed. Project MATCH found that poorer therapist alliance was predicted by several client baseline measures, including overall alcohol involvement, severity of alcohol dependence and negative consequences of alcohol use for the outpatient group and the pre-treatment DDD for the aftercare group (Connors, et al., 2000). In contrast, Öjehagen et al. (1997) reported that the therapist contribution to alliance, as rated by observers, was not related to initial measures of alcohol use (Öjehagen, et al., 1997). With those in treatment for substances other than alcohol, drug use severity at intake (Belding, et al., 1997) and drug use history (Belding, et al., 1997; Meier, Donmall, et al., 2005b) were not related to therapist ratings of alliance. None of the studies discussed above found substance use symptomology predictive of clients’ ratings of alliance or their contribution to alliance when rated by observers.

Several studies have found that levels of depression and anxiety symptoms were predictive of alliance (Bethea, et al., 2008; Connors, et al., 2000; McCabe & Priebe, 2003; Meier, Donmall, et al., 2005b). Meier et al. (2005b), drawing on research with clients in three residential drug treatment services (n=187), reported that anxiety and depression symptoms were predictive of alliance in univariate models of analysis for both therapist and client ratings of alliance, but not in multivariate models (Meier, Donmall, et al., 2005b). In Project MATCH both outpatient and aftercare client ratings of alliance were negatively predicted by clients’ level of depression (Connors, et al., 2000). In their study of different diagnostic groups, McCabe and Priebe (2003) found that higher ratings on anxiety and depressive subscales of the Brief Psychiatric Rating Scale were significantly related to poorer client ratings of alliance in the alcoholics and depressives groups (but not for the schizophrenic group) (McCabe & Priebe, 2003). In their research with opioid-abusing pain patients, Bethea et al. (2008) reported lower overall client-rated alliance (HAq) for those with current, but not lifetime, anxiety disorder and for those with lifetime depressive disorder or lifetime substance use disorder (Bethea, et al., 2008).
In contrast, psychiatric symptoms were not related to clients’ or therapists’ ratings of alliance with clients in MMT (Belding, et al., 1997) or observer ratings for clients in treatment for alcohol dependence (Öjehagen, et al., 1997). Neither were anxiety or depressive disorders related to therapist-rated alliance with opioid-abusing chronic pain patients (Bethea, et al., 2008). The same was found in Klein et al.’s (2003) study (n= 367) that included a large sample of outpatients with major depression. Baseline depression levels did not predict alliance or the course of alliance.

### 3.1.1.3 Psychosocial variables

Researchers have examined whether psychosocial variables related to treatment outcome are also associated with alliance (Meier, Donmall, et al., 2005b). Motivation and readiness to change have consistently been identified as predictors of alliance for various cohorts (Calsyn, et al., 2006; Connors, et al., 2000; Meier, Donmall, et al., 2005b). Meier et al.’s (2005b) investigation of variables within the four psychosocial domains of psychological resources, social relationships, attitudes and motivation, and psychological well-being reported that higher ratings on motivation-related variables were predictive of more favourable alliance ratings for both therapists and clients (Meier, Donmall, et al., 2005b). In Project MATCH motivational readiness to change was found to be a positive predictor of client and therapist alliance both for outpatient and aftercare groups (Connors, et al., 2000). In addition, an increase in readiness to change between 3 and 15 months was predictive of 15-month client ratings of alliance for severely mentally-ill, substance-using and homeless men and women (Calsyn, et al., 2006).

Reviews and commentaries in general psychotherapy have stated that positive ratings on interpersonal and intrapersonal variables are predictive of more favourable alliance (Castonguay, et al., 2006; Crits-Christoph, Gibbons, & Hearon, 2006; Horvath & Luborsky, 1993). Interpersonal variables specifically identified in the substance use field include socialisation and social supports (Connors, et al., 2000; Meier, Donmall, et al., 2005b) and psychological resources and coping strategies (Meier, Donmall, et al., 2005b). With regard to the intrapersonal variables, positive alliance ratings have been reported for those clients with a secure attachment style who receive treatment for drug misuse (Meier, Donmall, et al., 2005b) and treatment for major depression (Reis & Grenyer, 2004). While object relations and psychological mindedness, i.e. level of insight, have been reported to be predictive of more favourable alliance in general psychotherapy literature (Castonguay, et al., 2006; Horvath &
Luborsky, 1993; Hougaard, 1994) these intrapersonal variables have not so far been the focus of substance use treatment research.

In summary, in substance use research, findings regarding client demographic variables that are associated with alliance are equivocal. Likewise, limited research means the same for most baseline diagnostic and symptom severity variables. In other areas there seem to be some emerging trends. Interpersonal variables such as socialisation, social supports, motivation or treatment readiness appear to be predictive of alliance. The intrapersonal variable of secure attachment style has also been reported to be associated with alliance. There is growing evidence of a positive association between higher levels of depressive symptoms and poorer alliance. This latter trend has been found exclusively in substance-using treatment populations, as has not appeared in general psychotherapy research or in research in depressed populations. This further suggests that alliance may be experienced or perceived differently by the substance-using treatment population.

3.1.2 Therapist characteristics

There is growing interest in the role therapist characteristics play in good alliance. As with clients, therapists are not homogenous demographically nor do they have the same experience and skills. These areas have received the most attention and their findings will now be reviewed.

3.1.2.1 Demographic variables

In their review of substance use literature Meier et al. (2005a) concluded that neither therapist age nor gender were predictive of client- or therapist-rated alliance (Meier, Barrowclough, et al., 2005a). However, this conclusion is challenged by Project MATCH which found that therapist age was predictive of alliance in bivariate analysis, although not in multivariate (Connors, et al., 2000). Mixed results have been reported with regard to therapist education (Connors, et al., 2000; Meier, Donmall, et al., 2005b). The therapist having a formal qualification and being of ex-addict status was predictive of higher client ratings of alliance but not of therapist ratings (Meier, Donmall, et al., 2005b). In contrast, in Project MATCH, therapist education was not predictive of client-rated alliance in either the aftercare or outpatient arm. However, it was found to be the case for therapist alliance ratings in the aftercare arm but only in bivariate analysis, not in multivariate analysis.
3.1.2.2 **Therapist skills and experience**

Increasing consensus exists that alliance is a facilitative condition or dimension, through which change is mediated (Malan, 1976). In this light attention has been given to other dimensions involved in change, that is those skills and techniques facilitated through the conduit of the therapist and the relationship that they may have with alliance. Ackerman and Hilsenroth’s (2003) review produced a comprehensive list of therapist characteristics and techniques that positively impact on alliance. This review was useful in generating a large range of variables involved in alliance. The authors found that the breadth of variables identified was supportive of the pantheoretical nature of alliance. However, the review was limited by its lack of methodological critique, particularly with respect to potential for there to be a huge overlap of variables due to the use of wide-ranging methodologies, measurement tools, and the apparent lack of a uniform conceptual definition.

Within the substance use field several authors have investigated if therapist skill or experience predicts alliance. A comparative study of MET and counselling as usual (CAU) for people with substance use problems (alcohol 62%, cocaine 60%, marijuana, 27% and opiates 19%: n=319) found that clients’ alliance ratings (HAq) were significantly related to the higher levels of MET techniques employed by therapists. This occurred regardless of whether the therapist was in the MET or the CAU treatment condition (Crits-Christoph et al., 2009). This finding is consistent with that of Raytek, McCrady, Epstein and Hirsh (1999) who reported that, with couples in conjoint substance use treatment, observers rated alliance was more highly when therapists were more experienced and delivered their techniques more competently (Raytek, McCrady, Epstein, & Hirsh, 1999).

3.1.3 **Treatment**

It is widely acknowledged that alliance is a pantheoretical variable, ubiquitous in therapeutic change research. This has been discussed in two ways: how alliance is experienced or perceived by the key parties involved in the dyad; and how the characteristics of each member of the dyad are associated with the strength of alliance. How alliance differs over the length of treatment has been discussed earlier in relation to the pattern of alliance development. Other treatment parameters, such as the therapeutic modality and setting, will now be discussed.
3.1.3.1 Treatment modality

As discussed above, the exponential growth of treatment models was an important factor driving Bordin’s trans-theoretical conceptualisation of alliance. Undoubtedly this growth has continued although it has ebbed and flowed over time. Deliberation has occurred regarding whether alliance is more or less strong in models where relational components are central to therapy as opposed to more structured treatment models, where techniques are more central e.g. CBT. This debate seems to have occurred more in outcome research so fuller discussion of this will be left to Part Two of this Chapter (refer section 3.2.8). Suffice to say in general process research it appears to be accepted that alliance is pantheoretical. Given the plethora of models it is not within the scope of this discussion to exhaustively review how alliance is manifest in each and every model. The review will therefore focus on those models which have received explicit attention in substance use research. Any discussion in this area is constrained by the fact that details on specific treatment models are often limited, or loosely described as “eclectic”. This lack of detail reflects the wide acceptance of the pantheoretical nature of alliance. Nevertheless, a number of investigations in the substance use field have provided insight into how alliance relates to specific models of treatment or components within these models.

Within the substance use field comparative treatment studies have investigated whether alliance is predicted by a modality or by specific active ingredients of treatment. Most adhere to manualised treatment protocols (Calsyn, et al., 2006; Carroll, 2004; Crits-Christoph, et al., 2009; Crits-Christoph et al., 1999; Dundon, et al., 2008; Öjehagen, et al., 1997). In the main these have focused on empirically favoured models such as CBT, MET and pharmacotherapies. Research to date has reported that alliance has been rated higher in CBT, compared with less psychologically active treatments (i.e. control conditions confined to common factors of psychotherapy such as empathy) (Carroll, 2004; Dundon, et al., 2008). Carroll, Nich and Rounsaville’s (1997) study investigated observer ratings of alliance at the second session (VTAS) in a cocaine dependent sample (n=103). There were four different manually guided treatment conditions: first, the cognitive behavioural condition (CB) plus pharmacotherapy (the tricyclic antidepressant desipramine); second, CB plus placebo. The third and fourth conditions involved a control psychotherapy (CM) condition, without the active ingredients contained in the CB condition; the third condition was CM plus desipramine; and the fourth was CM plus placebo. The authors reported that alliance was rated significantly higher in the CB condition compared with the CM. Whether or not medication was prescribed had no influence on this relationship and the difference could not
be accounted for by differences between the therapists who conducted the treatment. Similarly, Dundon et al. (2008), in their research with alcohol dependent patients (n= 194), reported that alliance, as rated by clients and therapists on the WAI, differed according to treatment condition. Treatment conditions were medication-only (naltrexone); medication plus an intervention promoting pharmacotherapy (BRENDA) and medication plus CBT. Alliance was rated highest by those in CBT condition, followed by BRENDA and then the medication-only group. The difference in therapists’ alliance ratings, when comparing each group with one another, was significant. With the client ratings, the first two groups did not differ significantly, however both CBT and BRENDA were rated significantly higher than the medication-only group (Dundon, et al., 2008).

Öjehagen and colleagues (1997) compared alliance for 72 outpatients with alcohol dependence who had been randomly assigned to non-manualised multimodal behavioural therapy (MBT) or a psychodynamic psychiatric treatment (PT). Alliance at the third session and the third-to-last session was rated by an observer using a Swedish version of the HAq. Although findings related only to a subgroup of 35, the therapist contribution to alliance was found to be significantly stronger in MBT (n=17) compared with PT (n=18), but there were no differences with clients’ contribution (Öjehagen, et al., 1997).

Not all comparative studies have found that treatment condition impacted on alliance ratings. Crits-Christoph et al. (2009) reported there was no difference in client-rated alliance between MET and CAU. Observer and therapist ratings of alliance were not assessed. Similarly, a study of cocaine dependent outpatients (n=487) reported that treatment modality was unrelated to the client- or therapist-rated alliance as measured by the HAq and CALPAS at the second session (Crits-Christoph, et al., 1999). The three modalities included in the analysis were: individual drug counselling based on the 12 step disease model of addiction, cognitive therapy based on Beck’s cognitive model and supportive-expressive therapy, a time-limited brief psycho-dynamic model (Barber, et al., 2001).

Lastly, several components of an assertive community outreach treatment programme have been linked to the strength of alliance. The amount of programme contact and assistance with transportation were strong predictors of case managers’ alliance ratings both at three months and 15 months. Assistance with daily living was predictive of alliance at three months (Calsyn, et al., 2006).
Within depression research, partial support for alliance to be rated higher in CBT, compared with other models, comes from a relatively new measure of alliance, the ARM. The authors compared client and therapist alliance ratings in two treatment conditions (n=79), CBT or psychodynamic-interpersonal therapy. They found that the partnership and confidence subscales of the ARM were rated higher in CBT (Stiles, et al., 2002). Significant treatment differences were also reported by Klein et al. (2003). The authors reported that depressed clients rated alliance significantly higher when they were in the combined treatment condition of cognitive-behavioural analysis system of psychotherapy (CBASP) plus medication, compared to those who were in CBASP alone (Klein et al., 2003).

The Treatment of Depression Collaborative Research Program (TDCRP) study was with 224 depressed patients who were receiving manualised IPT or CBT, or pharmacotherapy (tricyclic antidepressant imipramine) plus case management. In contrast to the above findings, the authors reported there were no significant differences in overall alliance ratings by treatment condition as measured by observers using the VTAS (Krupnick, et al. 1996).

### 3.1.3.2 Treatment setting

Meta-analysis researchers in general psychotherapy have yet to comment on the role treatment setting, as a design factor, has on alliance. This may be because it is of less relevance as most research occurs in outpatient settings. There has so far been little comment on the role setting has on alliance in substance use treatment research. Comparative differences between outpatient and aftercare settings in Project MATCH (with aftercare following client’s completion of residential treatment) have been described as part of the previous discussions regarding predictor variables. Setting itself has not been analysed as a predictor. At present, mixed findings indicate that no firm conclusion about these two settings is possible.

### 3.1.3.3 Treatment length and dose

One could presume that the line of inquiry with regards to timing of the assessment of alliance would be linked to the role that treatment length has on alliance. Claims in general psychotherapy research, that when alliance is assessed does not alter its’ strength (Horvath & Luborsky, 1993), have also been reported in the substance use field (Öjehagen, et al., 1997; Raytek, et al., 1999). However, this is challenged by findings about the pattern of alliance development, as discussed earlier. Many, but not all, individuals demonstrate a stable pattern.
of alliance throughout treatment. Given differences in treatment length and frequency of therapy dose (i.e. number of sessions within a timeframe), the ways in which this impacts on alliance may be important when considering alliance development, especially for those who have a non-linear pattern of alliance development (also refer section 2.3).

In summary, both in substance-using and in depressed treatment populations, it is generally agreed that alliance is rated uniformly high, regardless of treatment modality. This includes findings that treatment that included medication did not show any reduction in alliance, when compared to psychological therapy alone. Whilst many studies reported no significant differences in alliance ratings between treatment modalities, there seems to be a trend emerging for alliance to be rated higher in CBT in the substance-using treatment population, this trend less evident in the depressed population. These areas together with the associations between alliance and treatment setting, length and dose warrant further consideration.

3.1.4 Summary and conclusions

Alliance does not occur in isolation but is a dimension or “climate” within a relationship. Each party in this relationship has their own distinctive characteristics that may come to bear on this climate. Alliance in the current context is specific to that occurring during therapeutic change. As such, factors involved in the therapy being delivered to assist change, i.e. modality, skills or technique, together with more operational aspects such as length and setting, may also influence how alliance manifests. In many of these areas findings are as yet equivocal, e.g. demographic characteristics, suggesting further research is needed to draw more definite conclusions. In some areas significant findings have been more consistently found. Within substance use research, motivational variables appear to be predictive of alliance and there is evidence of a positive association between higher levels of depressive symptoms and poorer alliance. Alliance is rated uniformly high in most treatment modalities. Ratings of alliance in CBT, despite its more structured nature, have been found to as high and, in several instances, higher than other treatment models. Whether or not their association with alliance is related to differences in treatment related outcomes will now be discussed.
3.2 The alliance-outcome relationship

The alliance-outcome hypothesis has been widely studied in treatment and outcome research. Consequentially, findings from the increasing volume of research have been summarised and synthesised into general psychotherapy reviews (Horvath, et al., 2011a; Horvath, et al. 2011b; Horvath & Luborsky, 1993; Horvath & Symonds, 1991; Orlinsky, et al., 1994; Orlinsky, et al., 2004), case management, primarily relating to people who have more severe mental health issues (Howgego, et al., 2003) and reviews pertaining to the substance use field (Meier, Barrowclough, et al., 2005a; Najavits & Weiss, 1994). In addition, meta-analyses have been conducted in an attempt to draw conclusions from empirical research with a vast range of methodologies, (Flückiger, et al., 2012; Horvath, 2006; Horvath & Bedi, 2002; Horvath, et al., 2011a; Horvath, et al., 2011b; Horvath & Symonds, 1991; Martin, et al., 2000).

Part Two of the literature review will present findings from general psychotherapy meta-analyses. This will be followed by a more detailed review of research on the alliance-outcome relationship in substance-using and depressed treatment populations. In accord with the current investigation, the main focus of the review will be on symptom-related outcomes such as substance-use and depressive symptoms, rather than treatment retention or other outcomes.

3.2.1 Alliance and outcome in general psychotherapy

As the volume of research has grown, reviews have encompassed investigations with more complex and sophisticated research design and statistical analysis. Nevertheless they continue to report a positive correlation between better quality alliance and positive change across a number of treatment fields and modalities (Flückiger, et al., 2012; Horvath, et al., 2011; Horvath & Luborsky, 1993; Martin, et al., 2000; Orlinsky, et al., 2004). This section will briefly summarise initial landmark reviews and then discuss the findings of meta-analyses.

That alliance is related to treatment outcome has been consistently reported over a long period. Horvath and Luborsky’s (1993) discourse encapsulated key aspects of alliance research and confirmed findings of a significant relationship between therapeutic alliance and positive outcomes in psychotherapy. Orlinsky et al. (2004), in their comprehensive review of fifty years of psychotherapy process and outcome research, updated previous reviews and
incorporated research published from 1993 to 2001, this including 279 articles and 42 empirical reviews. They excluded qualitative studies, research where process and outcome variables were not linked and single case studies. A third of all process outcome studies since 1950 were published in the last decade their review covered (1991-2001), indicative of the rapid growth of research in this area. Regardless of this recent growth, the authors confirmed their conclusion made in the 1993 review. This had been based on 2,300 process-outcome findings derived from over 500 studies. This conclusion was that the quality of the patient participation in treatment was the most important determinant of outcome with the bond between the therapist and client mediating the link. The substantial review concluded that a number of process variables were robustly associated with outcomes. These included: patient suitability, patient co-operativeness versus resistance, the therapeutic bond, the patient contribution to that bond, interactive collaboration and client expressiveness and affirmation of the therapist openness. A further milestone in the understanding in the alliance-outcome relationship was that alliance was more predictive of outcome than empathy (Orlinsky, et al., 2004). Undoubtedly, these conclusions have been pivotal in the continued proliferation of alliance-outcome research.

3.2.2 Meta-analytic reviews

A number of meta-analytic reviews have been conducted in an attempt to add weight to the conclusiveness of the alliance-outcome hypothesis. Horvath and Symonds (1991) reviewed 24 studies which together had 20 distinct data sets. To be included research needed to measure “working”, “helping” or “therapeutic” alliance, use quantifiable measures and contain more than five subjects participating in individual as opposed to group treatment. Overall the authors found “…that working alliance was a relatively robust variable linking process to outcome” (Horvath & Symonds, 1991, p. 146), with an effect size of .26. They regarded this as a conservative estimate because reports where correlations were nonsignificat were attributed the value of 0.

Next, Martin et al. (2000) provided an updated meta-analysis of findings from 79 studies over an 18 year time span. These included those analysed in Horvath and Symond’s 1991 review. Similar design standards were applied so that, from over 1500 research studies identified, most were excluded as they failed to use a quantifiable measure of the relationship between alliance and outcome. The majority of participants, from the 79 studies included, were outpatients with a range of disorders. Two-thirds were female. Despite the variance in rating
systems of the alliance concept (from specific to eclectic), the authors reported an effect size of .22 (Martin et al., 2000). Two years later, Horvath and Bedi (2002) in their update of previous meta-analyses included a further ten studies in addition to those reported on by Martin et al. (2000). Findings were consistent with those reported earlier, the mean relationship between alliance and outcome being .21 and a median effect size of .25.

The most recent meta-analysis has drawn on a database of 7000 articles. It included 201 studies and 190 independent data sets (Horvath, et al., 2011). While 39 studies were based on shared data sets, the research included was more than double that of Horvath and Bedi’s 2002 meta-analysis. Inclusion required studies to have a minimum of five or more adult participants receiving genuine (as opposed to simulated, deliberately ineffective or placebo) treatments. The authors needed to have referred to one of the variables assessed in terms of its impact on outcomes as alliance, “therapeutic alliance”, “helping alliance” or “working alliance”. The search extended previous meta-analysis by including material in Italian, German and French. Using the random effects which gives a conservative estimate if more than one effect size is reported in a study, the aggregate effect size for the 190 independent alliance-outcome relationships was .28 (95% confidence level .25 - .30), significant at .0001. This finding is slightly larger than in previous meta-analyses, .26 (Horvath & Symonds, 1991), .22 (Martin, et al., 2000) and .21 (Horvath & Bedi, 2002). Whilst it may be small, alliance continues to remain a robust variable, and the strongest process variable, associated with outcome identified to date. Furthermore, over time (1972-2009), researchers have reported slightly increasing effect sizes. These may result from using more sophisticated controls of extraneous variables, such as symptom severity and early symptom reduction (Horvath, et al., 2011). Overall, the authors report that the relationship between alliance and outcome accounts for 7.5% of variance in treatment outcome. Despite the variability in conceptualisation and research design, they argued that the effect of alliance is universal regardless of how it is measured, when it is evaluated, the therapeutic model, and how outcome is evaluated (Flückiger, et al., 2012; Horvath, et al., 2011). In contrast to earlier research (see section 2.2), this universal effect also held regardless of who rated the alliance (client, therapist or independent observer) (Horvath, et al., 2011).

Over time the robustness of the alliance-outcome relationship has not been challenged by meta-analyses. With the exception of Martin et al. (2000), all have been conducted by Horvath in conjunction with colleagues. As discussed in the previous section researcher allegiance has been one of the few design factors to impact on the association (Flückiger, et
Horvath is one of the pre-eminent theorists in this area. He is associated with the development of a key measurement tool, the WAI, and one of the authors involved in Flückiger et al.’s (2012) meta-analysis. However, there is no reason to suspect that the dominant presence of Horvath as an author impacts on the robustness of meta-analytic findings. To the contrary, other strands of current alliance-outcome research, such as that by Crits-Christoph et al. (2011) on the dependability of the alliance assessment and causal direction, strengthen rather than challenge the robustness of the relationship reported in this series of meta-analytic findings (Crits-Christoph, et al., 2011).

3.2.3 The role of alliance in treatment outcomes for substance use

The conceptualisation of alliance and the investigation of the alliance-outcome relationship in general psychotherapy has been hugely beneficial in advancing knowledge regarding the therapeutic relationship and therapeutic change. However, generalizing findings to populations with specific disorders is limited by several factors. Most importantly, characteristics of clients in generic psychotherapy may differ markedly from other client groups, namely, as per the current investigation, people with clinically significant substance use and depressive disorders. Generic psychotherapy clients are likely to be more well (have fewer psychiatric or other symptoms), higher functioning and possibly more internally motivated to change, than is the case for people with more severe mental illnesses, those with alcohol and drug problems and indeed those with comorbid disorders. That people with substance use disorders are frequently excluded from generic psychotherapy and other specific treatment research is likely to further exacerbate issues of generalizability (Stirman, et al., 2005).

The quality of the therapeutic relationship is vital when working with people with a substance use disorder, as traditionally these clients often have unsatisfactory relationships with their family and social environment and are difficult to engage and retain in treatment. In addition, the more frequent educational and confrontational approach of AOD programmes and the fact that the alcohol and other drug therapist focus is often one of depriving or denying the client of drugs, particularly in the early stages, puts immediate challenges to the development of any therapeutic relationship (Meier, Barrowclough, et al., 2005a). These distinctions are particularly relevant given that the formation of alliance is based upon the therapist being considered a source of help and there being shared ownership of the therapeutic process (Luborsky, et al., 1985). In line with challenges to generalizations stated earlier, these factors
and aspects of AOD programmes need to be considered when applying general findings from psychotherapy regarding the client-therapist relationship to the field of substance use. Furthermore, Horvath and Bedi (2002) support the view that this specific problem area warrants further investigation. In their analysis of the alliance-outcome relationship these authors reported that the subset of substance use research was characteristically different than that of the overall psychotherapy group. Whilst the subset of studies was small (n=6), the results were not homogenous and their combined effect size was .14, considerably less than the effect size of the larger group (minus this subset) which was .23.

Thus, there are broad differences between the underlying philosophies, treatment approaches and settings, and therapist characteristics in these different fields of treatment. All affect the relevance of the conclusions drawn. As summed up by Orford (2008) “…existing measures of alliance (such as the Working Alliance Inventory) are not based on a well-founded theory of what helps promote addictive behaviour change, but rather on a very general notion of the formation of a therapeutic alliance in psychotherapy” (Orford, 2008, p. 5). Further research is needed to determine whether the substance use field needs a more specific theory and measurement tool that is more relevant to addictive behaviour change.

Comparatively little alliance-outcome research is focused specifically on substance use disorders. Only a few studies have focused on alcohol use alone. This latter limitation may be a reflection that substance use problems for many are not limited to a single substance, so treatment programmes tend to deliver to people who are dependent on a variety of substances, often more than one. In Meier et al.’s (2005a) review of 18 studies that explored the relationship between therapeutic alliance and substance use treatment, the focus was on other drug treatment. Search terms included addiction and illicit drugs used (e.g. cocaine, heroin) but not alcohol. The review was also limited to studies where the client was receiving individualised treatment and excluded case studies (Meier, Barrowclough, et al., 2005a). The authors concluded that an early measure of therapeutic alliance was a predictor of engagement and retention in treatment. This finding on retention has been echoed in a recent study by Knuuttila et al. (2012b). However, findings regarding the relationship between the therapeutic alliance and substance use treatment outcomes have often been found to be contradictory, hindering the making of firm conclusions. This is consistent with meta-analysis by Horvath and Bedi (2002). The authors reported that, for this subset, the alliance-outcome relationship was less robust compared with generic treatment populations. Furthermore, on the one hand, a number of studies have reported that better therapeutic alliance was linked with improved
substance use treatment outcomes (Ilgen, McKellar, Moos, & Finney, 2006; Ilgen & Moos, 2005; Najavits & Weiss, 1994; Tunis, Delucchi, Schwartz, Banys, & Sees, 1995). On the other, some studies have only partially supported this association (Barber, Connolly, Crits-Christoph, Gladis, & Siqueland, 2000; Bethea, et al., 2008; Connors, et al., 1997; Crits-Christoph, et al., 2009; Dundon, et al., 2008; Fenton, et al., 2001; McCabe & Priebe, 2003). While other research investigations have found that the relationship between therapeutic alliance and treatment outcome was not significant (Belding, et al., 1997; Long, Williams, Midgley, & Hollin, 2000; Öjehagen, et al., 1997; Raytek, et al., 1999).

To summarise, it seems the robustness of the alliance-outcome relationship in substance-using treatment populations can be questioned on several levels; firstly, due to differences in the treatment populations and, secondly, due to underlying philosophical and theoretical differences. Certainly, the equivocal nature of the findings indicates the alliance-outcome relationship in this treatment population warrants further investigation. Whether this is the case for the depressed treatment population will now be briefly considered.

3.2.4 The role of alliance in treatment outcomes for depression

The importance of alliance in treatment for depression is highlighted in the empirically-based principles of therapeutic change for dysphoric disorders developed by a United States Task Force (Beutler, Castonguay, & Follette, 2006). Empirical literature was reviewed to develop principles that focused on aspects of therapeutic models and procedures linked to treatment success. The authors emphasised that all interventions need to occur within the context of a positive working alliance (Beutler, et al., 2006). Additionally, most research investigations have shown that alliance had a significant role in influencing treatment outcomes for people with depression (Arnow, et al., 2007; Barber, et al., 2000; Cunningham, Caslyn, Burger, Morse, & Klinkenberg, 2007; Klein, et al., 2003; Krupnik, et al., 1996; Priebe & Gruyters, 1993; Zuroff & Blatt, 2006) or a trend towards significance (Feeley, DeRubeis, & Gelfand, 1999). One study, however, showed that alliance and outcome were not related (Reis & Grenyer, 2004).

Thus, the positive relationship which alliance has on treatment outcome has been consistently reported in depression research. Unfortunately, extrapolating findings from this research to people with co-existing substance use and depressive disorders is hindered by the exclusion criteria used in several studies which specifically excluded subjects who had substance use
disorders currently or within the last six months (Arnow, et al., 2007; Barber, et al., 2000; Klein, et al., 2003).

Researchers are not only interested in whether or not alliance is related to outcome. Of crucial importance is to understand which other factors may moderate this relationship. Potential moderators are now discussed.

3.2.5 Moderators of the alliance-outcome relationship

Whilst grappling with an imperfect and imprecise concept, researchers strive to answer what relationship alliance has with therapeutic change (Horvath, 2006). As such, does alliance act as a mechanism of change, causally related to outcomes. Or, is alliance a mediator or moderator acting indirectly or occurring continguously alongside symptom improvement. Alternatively, is its role that of a marker of change, that is, a variable which indicates that a particular task has been accomplished to a certain degree; indicating and measuring the task but not necessarily acting as a causal agent of change (Castonguay, et al., 2006; DiClemente, 2007). Another possibility is that alliance is a residue or product of symptom improvement. Or, is its role one that simply predicts change. At present, the issue of causality remains complex and unclear.

Determining the role that alliance has on outcome also requires knowing the influence that other variables have on the alliance-outcome relationship. In pursuit of this knowledge, researchers are now investigating the role of moderators in this relationship. At the same time, other strands of research attempt to unravel the question of causality by examining causal pathways using mediational models and other methods. The focus of the current investigation is upon moderators of the alliance-outcome relationship, rather than causality, that is, the what rather than the how. Do specific variables moderate the alliance-outcome relationship in this specific treatment population? Or, does controlling for them nullify the moderating effect of alliance on outcome, reducing its relationship to that of a marker of change?

The following section will consider what research has been able to uncover about moderators of the alliance-outcome relationship and focuses on treatment outcome research in substance-using and depressed populations. Moderators are discussed with regard to client factors,
followed by therapist and programme factors. Those that relate to research design have been discussed earlier in section 2.5.1.

### 3.2.5.1 Client factors

Research has paid scant attention to demographic variables. Greater attention has been given to diagnostic and psychosocial variables, such as symptom severity and motivation. Findings in all these areas will now be discussed.

#### 3.2.5.1.1 Demographic characteristics

Whilst studies on alliance generally provide good descriptive demographic details, little specific attention has been given to their role in the alliance-outcome relationship. This is possibly due to the equivocal findings regarding their relationship with alliance per se (refer section 3.1.1.1). In some studies screening the relationship of these characteristics to alliance has occurred, and when none of significance found, no further consideration was given in the alliance-outcome analysis (Belding, et al., 1997; Dundon, et al., 2008; Öjehagen, et al., 1997). Other investigations have examined them in conjunction with the alliance-outcome relationship. In Project MATCH client characteristics (gender, age and ethnicity) were grouped as one block and used as a covariate in the alliance-outcome analysis. This block of variables did not render the relationship nonsignificant. However, they did account for a significant amount of variance in the relationship between both therapist- and client-rated alliance and PDA post treatment. The same was found with therapist-rated alliance, not client, and DDD post treatment (Connors, et al., 1997). In addition, the relationship between symptom deterioration and alliance remained when controlling for gender, age, ethnicity, relationship status and education (Ilgen & Moos, 2005). Similarly, De Weert Van-Oene and colleagues (2001) reported that the relationship between alliance and retention remained significant even when controlling for gender, age, education and living circumstances (De Weert-Van Oene, et al., 2001).

As with substance use research, several depression studies have controlled for demographic characteristics (Klein, et al., 2003; Zuroff & Blatt, 2006). Klein et al. (2003), in their study of treatment of major depressive disorder (n=367), reported that controlling for gender did not change the significance of early alliance in predicting the subsequent change in depression symptoms. Likewise, Zuroff and Blatt (2006) found no evidence that the effect of the quality
of the therapeutic relationship (as measured by the Barrett-Lennard Relationship Inventory: B-LRI) on outcome could be attributed to age, gender or marital status (Zuroff & Blatt, 2006).

Thus, it seems that client demographic characteristics do not alter the relationship between alliance and outcome in either treatment population. While, however, they may not render the alliance-outcome relationship nonsignificant, it cannot be presumed they have no effect. Given that gender, by itself, has been found to be a consistent predictor of drinking-related treatment outcome (Adamson, et al., 2009) and ethnicity, age and income found to be factors associated with rates of drop-out (Arnow, et al., 2007), a strong case can be made that more explicit analysis and reporting of these variables is justified.

3.2.5.1.2 Pre-treatment symptom severity

Previous level of substance use, found to be highly predictive of treatment outcome (Adamson, et al., 2009), has rarely been controlled for when the alliance-outcome relationship has been investigated. Project MATCH controlled for pre-treatment drinking history and baseline alcohol use (Connors, et al., 1997; Ilgen, et al., 2006). Firstly, Connors et al. (1997) reported that, when pre-treatment drinking history was controlled for, a positive relationship was found in the outpatient group (n=698) between both therapist and client ratings of alliance (WAI) and drinking outcomes (PDA and DDD) at 12 months following treatment. The relationship was not significant for the aftercare group (n=498). Baseline alcohol use was controlled for in subsequent analysis of this outpatient sample. Using a composite drinking outcome measure of PDA and DDD, a positive relationship was revealed between the therapist rating of alliance and better drinking outcomes (reduced alcohol use) at both 6 and 12 months. However, for client ratings of alliance, the relationship was significant at 6 months, but not at 12 months (Ilgen, et al., 2006). Again, Project MATCH data was employed to consider those whose alcohol use had deteriorated three months post treatment (aftercare, n=50 and outpatient, n=91). Even after controlling for baseline alcohol dependence levels, lower ratings of three week alliance were predictive of heightened risk of deterioration or alcohol use symptom exacerbation at three months following treatment for the outpatient sample, but not for the aftercare group (Ilgen & Moos, 2005).

In their study with clients in MMT, Belding and colleagues conducted partial correlations to determine the degree to which alliance (HAq) predicted outcome beyond the baseline measures of psychiatric and drug use severity as measured by the Addiction Severity Index
(ASI). The authors reported that three month outcomes were significantly correlated with therapeutic alliance, even when controlling for baseline drug use severity. One month alliance and outcome, in contrast, were not.

Relatedly, research into the relationship between alliance and depressive symptomology has reported that, when controlling for pre-treatment levels of symptoms across a range of treatment conditions, there was a significant relationship between mean and early alliance and outcome (based on depressive symptomology). Krupnik et al. (1996) utilised data from the TDCRP. Alliance was rated by clinical observers for sessions 3, 9 and 15, based on a modified version of the VTAS. Outcome measures included a clinician-rated Hamilton Rating Scale for Depression (HRSD) and client ratings on the BDI, both completed at the end of the 16 week treatment. A significant alliance-outcome relationship was found with the total alliance score and clients’ contribution to the alliance but not for the therapists’ contribution (Krupnik, et al., 1996).

In summary, with depressed populations the relationship between alliance and treatment outcome cannot be attributed to the level of symptom severity present prior to the alliance becoming established. Most research suggests this conclusion can be extended to the substance-using population, although findings in this population are more mixed.

3.2.5.1.3 Alliance as a product of symptom change

As stated earlier, some have argued that alliance is a product of symptom change, rather than a cause. Others see it simply as a marker. One study, examining alliance in 57 clients receiving MMT, found that when drug use in the previous month was controlled for, the strength of the alliance, as rated by the therapist or the client, was no longer a significant predictor of improved drug use outcomes (Belding, et al., 1997).

Similarly in depression research, Feeley et al. (1999) examined the causal role of alliance in symptom change for 32 depressed adults in a 12 week cognitive therapy treatment programme. Observers completed the Penn Helping Alliance rating scale after the second session, and after a session in weeks 7-9 and a session in weeks 10-12. Outcome was based on client BDI ratings prior to each session. The authors reported that alliance did not predict symptom change, but that there was a nonsignificant trend for prior symptom change to
predict alliance. This gives some support for the hypothesis that alliance is a product of change.

In contrast, other studies with depressed populations have reported that early alliance predicts outcome even when early symptom improvement is controlled for (Barber, et al., 2000; Klein, et al., 2003; Zuroff & Blatt, 2006) and when controlling for concurrent levels of depressive symptoms (Crits-Christoph, et al., 2011; Klein, et al., 2003). Barber et al. (2000) examined whether alliance predicts outcome when early in-treatment improvement was controlled for. The study was with 88 clients receiving treatment for a range of psychiatric disorders and included major depressive disorder (n=11). Substance use disorders were excluded. Alliance was rated using the CALPAS at the end of sessions 2, 5 and 10. The BDI was completed at intake, prior to each therapy session and at the end of treatment. Hierarchical multiple regression analysis indicated that, although alliance was influenced by prior symptom improvement, it was still a significant predictor of further improvement, even when prior change in depressive symptoms was controlled for.

In their study of psychotherapy for major depressive disorder, Crits-Christoph et al. (2011) investigated the issue of “reverse causation”, as such they asked if alliance was a product of earlier symptom change, rather than leading to subsequent symptom change (Crits-Christoph, et al., 2011). Their investigation incorporated a series of studies in which both alliance (CALPAS) and depression outcomes (client-rated BDI and HRSD) were assessed at multiple timepoints and then analysed using longitudinal mixed model analyses (primary sample, n=45). Session-by-session analysis found that prior symptom improvement had no significant impact on subsequent session alliance in the case of earlier sessions (3-9) but did in later sessions (10-16). Here a decrease in depressive symptoms was associated with a subsequent increase in alliance, thus providing evidence of reverse causation at this later stage. Also examining the possibility of reverse causation, Klein et al. (2003) measured both alliance (WAI) and outcome (HRSD) at several timepoints. Based on findings from mixed-effects-growth-curve models and multiple regression analysis, the authors reported that early alliance significantly predicted change in depressive symptoms, even after controlling for prior symptom improvement. This finding nullified the reverse causation hypothesis.

Finally, research by Zuroff and Blatt (2006) utilised the TRCDP data set (n=191) and included a measure of the therapeutic relationship that was based on a combination of the B-L RI at session two and VTAS client rating at session three, regressed on early change in
maladjustment. Maladjustment included measures of depressive symptomology, global functioning and social adjustment. The authors reported that the therapeutic relationship measure predicted the rate of decrease in maladjustment over the 18 month follow-up period. This relationship held even when controlling for early clinical improvement. It should be noted that this finding was specific to the B-L RI component of the relationship measure only. As such, while the B-L RI contribution to the therapeutic relationship measure predicted outcome after controlling for early symptom change, the alliance component did not.

To summarise, the weight of evidence overall does not support the hypothesis that the alliance-outcome association is simply a product of prior symptom change, at least for the early stages of treatment. In addition, differences between therapist and client variability in ratings do not support this proposition. However, there is support for the argument that, when tracking alliance and outcome over time, the relationship is confounded by prior symptom change later in treatment.

3.2.5.1.4 Motivation

Little attention has been given to motivational factors that play a role in the alliance-outcome relationship in adult treatment populations. This is surprising for a number of reasons. Firstly, because substance-using treatment populations traditionally have been found to be more difficult to engage and retain in treatment compared to other cohorts (Meier, Barrowclough, et al., 2005a). Secondly, because motivational factors have been consistent predictors of alliance (Calsyn, et al., 2006; Connors, et al., 2000; Meier, Donmall, et al., 2005b) and of drinking-related outcomes (Adamson, 2003) and treatment retention (Ryan, Plant, & O’Malley, 1995). Thirdly, because of the relative success of motivational approaches in treatment (Miller & Wilbourne, 2002). As stated earlier, Project MATCH, a landmark study in alcohol treatment research, found therapist-rated alliance was positively related to better outcomes (reduced alcohol use) at both 6 and 12 months in the outpatient sample (Connors, et al., 1997). Subsequent analysis revealed that this relationship was stronger, that is, the greater the alliance, the lower the alcohol use, in those instances when the client rated themselves as having lower motivation to change their alcohol use. In contrast, for client ratings of alliance, the relationship was significant at six months but not 12 months, with no significant interaction effect with motivation found at either 6 or 12 months (Ilgen, et al., 2006).
Support for the moderating influence of motivation was provided by Joe, Simpson and Broome (1999). The authors developed a model to explain retention in terms of process components of treatment, utilising data from 3,209 clients receiving treatment for cocaine dependence as part of DATOS. Findings indicated that therapeutic involvement, where rapport with the counsellor was a key component, was a mediating factor between intrinsic motivation (treatment readiness) and retention (Joe, Simpson, & Broome, 1999).

Again looking at treatment process, De Weert Van-Oene et al. (2001) investigated the relationship of pre-treatment variables (including treatment readiness and behavioural intention to complete treatment), helping alliance and treatment retention in a short-term (30 day) inpatient treatment for people with addiction (147 alcohol users, 132 other drug users and 21 gamblers). Repeated measures of the Texas Christian University Motivational Scales and the HAq were completed. Multiple hierarchical regression analysis was employed to distinguish the contribution of pre-treatment versus in-treatment variables. Whilst the greatest proportion of variance was accounted for by fixed factors (e.g. gender, level of substance use), even when controlling for these variables alliance continued to account for a significant proportion of variance, while the pre-treatment variables of treatment readiness and intention to complete did not. As high correlations were reported between pre- and in-treatment variables, the authors proposed their effect may occur indirectly through alliance, in the later phase of treatment (De Weert-Van Oene, et al., 2001).

In sum, research on the role that motivation may play on the alliance-outcome relationship is limited and findings are equivocal. Given these mixed findings and since motivation has been consistently found to be associated both with alliance and treatment outcome in substance-using populations, its role as a moderator in the relationship between these variables justifies further examination.

### 3.2.5.1.5 Self-efficacy

As with motivation, alcohol-related self-efficacy has been identified as a consistent predictor of drinking-related treatment outcomes (Adamson, et al., 2009) and treatment retention (De Weert-Van Oene, Breteler, G.M., & Schrijvers, 1999; Joe, Simpson, & Broome, 1998). Despite this, extricating the relationship between self-efficacy, alliance and treatment outcome has received limited attention. One study attempting to elucidate the role of self-efficacy in the alliance-outcome relationship was conducted by Hartzler, Witkiewicz,
Villarroel and Donovan (2011). This was by means of a secondary analysis of the COMBINE study data, a multi-site multi-treatment alcohol study (n= 1,383). Self-efficacy was rated using the Alcohol Abstinence Self-Efficacy scale. Alliance was rated by both clients and therapists using the WAI, with analysis restricted to the bond scale. Mediation analysis using the product-of-coefficients approach was used to determine associations between predictor, mediator and outcome variables. The authors found that the relationship between the WAI bond scale and 12 month outcomes was mediated by changes in self-efficacy only in the cognitive behavioural (CB) treatment condition but not in the other treatment conditions (CB+medication and medication only). And whilst early drinking levels at two months into treatment accounted for the greatest amount of variance, self-efficacy accounted for a significant additional amount beyond that accounted for by earlier drinking measures.

In summary, with regard to client factors that may moderate the alliance-outcome relationship, findings to date regarding demographic variables justify the inclusion of some of these variables within analysis. With regard to symptom specific factors, the weight of evidence supports conclusions that the alliance-outcome association cannot be accounted for by pre-treatment symptoms levels. Whether or not alliance moderates outcome over and above that of prior symptom change during treatment is less clear. Other client characteristics which may have a moderating influence include motivation and self-efficacy; although the amount of research conducted mean conclusions so far are tentative.

### 3.2.5.2 Therapist factors

It is indisputable that the therapist is a key agent of change in therapy. Analyses of naturalistic data and from clinical research trials have consistently found that between 5% and 10% of variance in treatment outcome is attributable to differences between therapists (Baldwin, et al., 2007). In their examination of patient and therapist variability in alliance in relation to outcome, Baldwin et al. (2007) used multilevel modelling, hierarchically-based with therapists as level one and clients level two, nested within the therapists. Alliance was based on clients’ WAI ratings. The authors reported that therapists, whose clients on average rated alliance high, had significantly better outcomes than therapists whose patients on average rated them lower. Furthermore, whilst the therapists variability in alliance (how much their mean WAI score deviated from the WAI grand mean) was related to outcome, the clients’ variability (how much the client’s WAI score deviated from the therapists mean WAI score from all their patients) was not. As such, among clients seen by the same therapists...
there was no relationship between level of alliance and outcome, once adjusted for clients’ baseline functioning, thus supporting that it was the therapist effect that accounted for the variation in outcome.

This pattern of findings is supported by Crits-Christoph and colleagues (Crits-Christoph, et al., 2009; Crits-Christoph, et al., 2011). They compared both between-therapist and within-therapist differences in a substance use treatment outcome study (n=319) where alliance was based on client-rated HAq at the end of the second session. The authors reported that between-therapist variability in alliance was associated with outcome while within-therapist variability was not. The authors therefore argued that therapist factors may be more crucial than client factors in the type of alliance needed for better outcomes (Crits-Christoph, et al., 2009).

This pattern of findings is consistent with those reported by Knuuttila et al. (2012a) in a study of clients in treatment for substance use problems. They found that alliance predicted client satisfaction, but did not predict PDA. However, similar to Baldwin et al. (2007) and Crits-Christoph et al. (2009), between-therapist variations in alliance were associated with client satisfaction at follow-up, whereas within-therapist variation was not.

Trepka, Rees, Shapiro, Hardy and Barkham’s (2004) findings from a study investigating therapist competence in cognitive therapy with a depressed cohort (n= 30 clients and 6 therapists) are in line with those from AOD research. Alliance was measured by both the CALPAS and ARM, and competence was assessed using the Cognitive Therapy Scale. Outcome was based on the BDI scores. The authors reported that alliance and competence were not significantly correlated (r = .17). However, both competence and alliance were significantly related to outcome, with alliance evidencing a stronger relationship than competence. In addition, the association between alliance and outcome remained even when controlling for therapist competence, with the authors stating the “impact of the alliance on outcome appeared unambiguously independent of that of competence” (Trepka, Rees, Shapiro, Hardy, & Barkham, 2004, p. 154).

In contrast, Raytek et al. (1999) have only given partial support to the impact of therapist effect on the alliance-outcome relationship. Their study examined the effect of therapist behaviour on retention of heterosexual couples in conjoint manualised therapy (n=10 therapists and 66 couples). Alliance and therapist competence was rated at the first session by
clinical observers using the VTAS and Errors in Technique subscale of the Vanderbilt Negative Indicators Scale respectively (correlation between the VTAS and VNIS was \(-.77, p < .01\)). Alliance and retention were shown to be higher for therapists with more experience and who delivered techniques more competently. However, neither alliance nor therapist experience or competence was significantly related to drinking outcomes.

In summary, findings from research which has compared between- and within- therapist variability in client-rated alliance suggests that the therapist effect on the alliance-outcome relationship is more pivotal to outcome than is client variability. Support for this argument is provided by research pertaining to therapist competence. Advocacy for the increased importance of the therapist role could be construed as a re-emergence of support for the Rogerian theoretical viewpoint, in which the therapist is considered the more central agent of change.

### 3.2.5.3 Programme factors

Treatment modality is the main programme factor investigated in alliance-outcome research. Meta-analysis from general psychotherapy research has reported that the type of treatment model (including psychodynamic, eclectic, gestalt and cognitive) did not significantly impact on the alliance-outcome relationship (Horvath & Symonds, 1991). More recently, this finding has been reported in relation to CBT, IPT, psychodynamic and substance abuse treatment models (Horvath, et al., 2011), although the effect size was considerably smaller within the substance abuse subset. Even though treatment setting varies for both substance-using and depressed populations and includes community and hospital outpatient, inpatient hospital and residential settings, it does not appear to have been the focus of research. However, given the disparate nature of settings and different findings reported between outpatient and aftercare arms in Project MATCH, this factor should be considered in the future.

### 3.2.6 Treatment modality

#### 3.2.6.1 Substance-using populations

Extensive investigations have sought to determine which treatment model attains the best outcomes. Similarly, there is a substantial body of research pertaining to the role that alliance plays in treatment outcome. Subsequently, investigations in the AOD and depression fields have started to address the interactions between variables in these two strands of research,
examining the interaction between alliance and treatment modality on outcome. As with the relationship between alliance and treatment outcome, findings between and within studies are mixed (Connors, et al., 1997; Crits-Christoph, et al., 2009; Dundon, et al., 2008). With Project MATCH treatment modality for the most part did not significantly impact on the relationship between alliance and outcome. No significant interactions between client ratings of alliance and treatment modality were reported in the aftercare or the outpatient group, or in the therapist ratings in the outpatient group. In addition, there were no significant interactions with drinking frequency (PDA) and client or therapist alliance in either group. The only area where treatment modality was found to have a differential impact was for therapist ratings in the aftercare group. As such a strong negative relationship was found between the therapist ratings of alliance and drinking intensity (DDD) in the MET condition, whilst a modest positive relationship between the two was reported in the CBT and TSF conditions (Connors, et al., 1997).

Mixed results were also reported by Dundon et al. (2008). Higher alliance scores in the medication only group were related to increased session attendance but not to PDA. For the BRENDA group the reverse was found, that is, higher alliance was associated with greater PDA but not session attendance. Conversely, whilst alliance ratings were highest in the CBT group, they were not significantly related to either outcome. Similar mixed findings were reported by Öjehagen et al. (1997) where the authors reported no significant relationship between early alliance and drinking-related outcome in MBT or PT. Positive correlations between alliance and mood outcome in MBT (n=17) were reported, but not in the PT condition (n=18). However, the strength of findings was compromised by the small numbers in the study.

Finally, Crits-Christoph, et al. (2009) found no significant differences between the two treatment conditions of MET and CAU with regard to the client-rated alliance (HAq after session 2) and treatment outcome (PDA). However, of particular interest in this investigation, was that further analysis revealed a significant curvilinear (quadratic) effect of client-rated alliance with outcome regardless of treatment condition. Clients who rated alliance relatively low or high compared to the average client rating were more likely to report an increase in substance use between weeks 4 and 16 post randomization. This timeframe approximated termination of treatment and 12 weeks following termination. Most research has assumed the relationship between alliance and outcome was a linear one, the weaker the alliance the poorer
the outcome. However, this curvilinear effect suggests that, for this population at least, too strong an alliance can also be associated with poorer outcomes.

### 3.2.6.2 Depressed populations

The positive relationship of alliance with reduced depressive symptoms has been reported in a range of treatment modalities including CBT (Klein, et al., 2003; Krupnik, et al., 1996; Zuroff & Blatt, 2006), supportive expressive dynamic psychotherapy (Barber, et al., 2000), IPT (Krupnik, et al., 1996; Zuroff & Blatt, 2006) pharmacotherapy (Klein, et al., 2003) and clinical case management (Krupnik, et al., 1996; Zuroff & Blatt, 2006), IPT (Krupnik, et al., 1996) and with integrated and non-integrated assertive community treatment (Cunningham, et al., 2007). In the TDCRP investigation no significant differences were found between treatment condition and mean alliance and outcome. However, for the early client contribution to alliance, the alliance-outcome relationship was strong within IPT, pharmacotherapy plus CM and CM plus placebo, while a weak relationship was found with CBT. Mean and early ratings of therapist contribution to the alliance were not significantly related within any treatment condition (Krupnik, et al., 1996). Finally, Arnow et al. (2007) in their study of chronically depressed patients found that lower therapeutic alliance (12-item client-rated WAI) was related to drop-out in those who received cognitive behavioural analysis system of psychotherapy (CBASP) and CBASP with medication, but not for those receiving medication only. The authors suggest the relationship with the therapist may add support through strategies to increase medication adherence and tolerate side effects.

Even though alliance is pantheoretical, it has been asserted that it is likely to be of greater relevance to outcome for those modalities where the relationship is a more central component and less of relevance in modalities where the relationship is considered comparatively less central e.g. CBT. However, in substance use research, while some research supports the proposition that alliance is less relevant in CBT (Dundon, et al., 2008), other research findings are divided and support a relationship with therapist ratings, but not with client ratings (Connors, et al., 1997).

In summary, while differences between treatment models have been reported, alliance-outcome research is not yet sufficiently extensive enough to be able to make broad conclusions regarding the moderating effect of treatment modality in substance-using or depressed populations. If exploring this issue further, differences in underlying
conceptualisations between measures and their allegiance to specific modalities should be considered.

3.2.7 Summary

Findings as to whether alliance plays a significant role in treatment outcome for substance-using treatment populations are equivocal. In contrast, the alliance-outcome relationship has been consistently reported with depressed treatment populations. When found, this relationship is not accounted for by pre-treatment symptom level, although the role that early symptom change may have on the significance is less clear.

To date, for both substance-using and depressed treatment populations, client demographic and diagnostic characteristics do not appear to influence this relationship. Their inclusion in future research, along with variables that have been found to influence this relationship, such as motivation, would assist in strengthening any conclusions made thus far. Further examination of therapist factors is merited as increasingly research suggests they play a more central role in the alliance-outcome than client factors. Lastly, findings as to whether treatment modality influences the alliance-outcome relationship are mixed. Further research is necessary before firm conclusions can be drawn.

3.3 Qualitative research

In the social sciences there is increasing acceptance and use of qualitative and mixed research methods to inform our understanding of phenomena. These findings add illumination and depth from a different methodological paradigm. Within psychology, where most alliance research sits, this development has been somewhat arrested, although there have been some exceptions (Bachelor, 1995; Bedi, Davis, & Arvay, 2005; Bedi, Davis, & Williams, 2005; Hill, Nutt-Williams, Heaton, Thompson, & Rhodes, 1996; Mohr & Woodhouse, 2001). There are also some particular areas where qualitative research appears to have had greater acceptance and is found more frequently, namely, case management (Redko, et al., 2007) and in research with adolescents, particularly around online therapy (Hanley, 2012). While not yet sufficient to constitute a trend, a small number of qualitative studies concerned with alliance in specific ethnic groups have recently been carried out, for example with Chinese (Zhu & Jiang, 2011) and Latinos (Harris, 2011). While investigations have been conducted on
diverse topics, a cohesive body of qualitative research on alliance is yet to develop. The following section will give an overview of relevant qualitative research in general psychotherapy, followed by that conducted within the substance use field.

3.3.1 Clients’ perspective of alliance

Several studies of alliance in general psychotherapy research have employed qualitative or mixed method research designs. These have centred, for the most part, on examining the clients’ perspective of alliance, bringing their voice to the fore, and by so doing re-examining the alliance concept as it is subjectively experienced by the client (Bachelor, 1995; Bedi, et al., 2005; Bedi, et al., 2005). Mostly this research has been driven by the belief that what was captured by alliance, as operationalized and assessed by standardised measurement tools, did not fully capture alliance as it was experienced by clients (Bedi, et al., 2005).

Bachelor (1995) employed a qualitative phenomenological methodology to identify “…core content and essential features of the alliance as it is concretely experienced” (Bachelor, 1995, p. 324). Thirty-four clients who had self-referred for therapy at a university consultation service were requested to provide written accounts describing their experience of the therapeutic relationship (good or otherwise). Separate accounts were provided regarding pre-therapy (n=34), the initial phase (n=19) and the later phase (n=13). Inductive analysis was conducted focusing on the experience of the therapy rather than the content. From this three distinct types of alliance were described, nurturant alliance (described in 46% of reports), insight-oriented alliance (39%) and collaborative alliance (15%). There were commonalities within the different types, such as trust, being non-judgemental, careful listening and empathy, which were not at odds with the underlying components of the alliance concept as measured by standard assessment tools. Nevertheless, as Bachelor (1995) highlighted, it emerged that clients did not perceive alliance homogenously, having different attachments to different components. What differed was the salience of each. For example, listening and understanding were differentially emphasised by clients who tended to value either cognitive or affective dimensions.

Bedi and colleagues (2005) used the Critical Incident Technique (CIT) to examine the client’s subjective experience of alliance. In an initial pilot study nine participants who had had a positive experience of counselling (minimum of three sessions) were interviewed using the CIT method. The participants were asked to recall incidents they believed had significantly
contributed to the forming or strengthening of alliance. Transcripts from audio recordings were used to identify and categorise critical incidents. Over two-thirds of the critical incidents identified (n=107) referred to the contribution under the control of the therapist. Again, whilst many of these were in line with alliance as operationalized in empirical research, it was also clear that clients perceived aspects prior to meeting the therapist as critical to the latterly formed alliance, for example, experience with the reception staff and the physical environment (Bedi, et al., 2005).

The second study used a similar methodology, employing the CIT approach in interviews and subsequent analysis of 40 participants who had had a positive experience of therapy. A total of 376 critical incidents were identified which were sorted into 25 categories. Factors most identified as adding to the formation and strengthening of alliance were found to be simple, such as eye contact, personalised greetings and identifying clients’ feelings. As with the pilot study, it was noteworthy that client-driven factors were rarely mentioned. Most clients seemed to perceive the therapist as primarily responsible for how the alliance developed. In contrast to concepts underlying commonly used alliance measures, collaborative factors were rarely mentioned, while again, the physical environment was.

Thompson et al. (2007) in a qualitative study of engagement, conducted semi-structured interviews with parents and youths involved in family therapy (n=19 families). Content analysis of transcripts was carried out with the aim of understanding engagement by identifying components involved in the alliance development between family members and therapists. Factors identified as building alliance with therapists centred around two categories, relationship building and task-centred alliance. The authors saw these as both mutual and complimentary, so that without one, the other was difficult to develop. These overall categories are closely aligned with the affective and task concepts underlying Bordin’s conceptualisation. However, the descriptive details provided, such as parents commenting on the importance of the therapist’s relaxed and calm demeanour, informality and casual attire add depth to our understanding of how “relationship building” is viewed by the parent. It may well be that these details have the greatest implications for clinical practice. As with research by Bedi and colleagues (2005), who found clients rated physical environment and demeanour of reception staff as critical to alliance, attending to concerns beyond therapeutic technique appear to be important to clients.
3.3.2 Substance use research

Qualitative research of alliance in the substance use field is marked by its almost complete absence. The most pertinent study to date is that conducted by Redko and colleagues (2007) and relates to case management, an aspect of treatment that has received comparatively more attention by qualitative researchers than has other areas. The authors conducted individual interviews and focus groups with clients. The aim was to provide a rich description of the alliance that develops between clients and case managers in a strengths-based substance use treatment programme. A detailed description of the inductive analysis was provided. This centred on the identification of themes and relationships within the data and coding systems. Negative case analysis was utilised as part of this process. A rich description of how the clients understood their relationship or working alliance with their case manager was provided. Three major themes were identified: the personal qualities of the case manager, client control over goal-setting and the focus on client strengths and abilities. The authors claimed that it was these aspects of the alliance which had assisted some clients in making positive changes (Redko, et al., 2007).

Bacchaus et al. (1999) conducted semi-structured interviews with clients in two inpatient programmes for drug use. The interview was structured around five areas, the therapeutic relationship being one of these. Interview transcripts were subsequently analysed and issues and themes extracted. This analysis showed that clients recognised the quality of the therapeutic relationship as one of the most positive aspects of treatment. Key attributes of this relationship were: positive attitudes of staff, support and empathy, accessibility, respect of confidentiality and non-judgemental attitudes. Most of these are consistent with Bordin’s conceptualisation, although it is not certain they would all be captured by assessment e.g. accessibility. It should also be noted that clients named the importance of establishing positive relationships with other clients, a factor that has not been discussed in alliance literature despite much of the treatment research being conducted in residential or inpatient settings.

3.3.3 Process of addictive behaviour change

Lastly, while not specifically focused on alliance, Orford, in his arguments that insider knowledge needs to be tapped into in order to throw light on the process of therapeutic change, has been a recent advocate of the use of qualitative methods (Orford et al., 2006; Orford et al., 2009; Orford, Hodgson, Copello, Wilton, & Slegg, 2009). Following findings from UKATT that overall different treatment models (MET and SBNT) achieved similar
outcomes, Orford et al. (2006) analysed 3 and 12 month follow-up interviews, that had been conducted with clients participating in the UKATT trial (Orford, et al., 2006). The investigation was undertaken on the basis that the relative absence of between treatment outcome differences could be better explained by broader thinking in terms of change “... so that treatment is seen as a complex system of parts, facilitating a nexus of cognitive, social and behavioural changes, embedded within a broader system of events and processes catalysing change” (Orford, et al., 2006, p. 60). One could be presume that alliance, as a commonly identified pantheoretical non-specific variable, would fall within this nexus. Textual data consisted of 400-800 word reports derived from interviewer’s field notes written following a semi-structured interview that had focused on the client’s explanation of what had caused positive changes in their drinking. Grounded theory qualitative analysis was used, focusing on what was said rather than how, the ultimate aim being to develop a model of change. The proposed model acknowledged that treatment models, and non-specific treatment factors such as alliance, are embedded within a much larger system of change-promoting elements such as support from family and friends. It was stated that tapping into the insider knowledge through the client’s voice helped identify the components that facilitate change beyond treatment. This confirmed Orford’s belief that only by looking at all those elements involved in the wider context is it possible to understand how change occurs.

In a subsequent study content analysis of the same textual data was coded according to predetermined categories, three motivational, three social and six general (Orford, Hodgson, Copello, Wilton, et al., 2009). Change was more often attributed to general factors than to those associated with UKATT treatment models (MET or SBNT). A factor frequently identified as being involved in long-term positive changes in drinking was the therapeutic relationship, one where they felt comfortable speaking openly. This intuitively seems consistent with a positive alliance. However, looking at overall findings from this study, what is more usefully highlighted is that both treatment model factors (technique) and non-specific factors, including those beyond the therapy rooms, are perceived by clients to play a role in assisting with long-term positive changes in their drinking.

In comparison to general psychotherapy, the study of process in addiction research has been subordinate to outcome, and, undoubtedly, most outcome research is empirically based. Utilising qualitative methodology Orford and colleagues (2006, 2009) injected the subjective view of the client into their re-examination of the factors involved in the process of addictive behaviour change which, until then had been mostly derived from general psychotherapy.
This provided a basis to begin exploring, from a qualitative perspective, how alliance might fit in this model of addictive behaviour change. At present the ways in which this area of research relates to other qualitative alliance research appears tenuous. However, as this line of inquiry grows, particularly in the employment of prospectively designed qualitative studies which tap into the insider’s voice, these connections may become more apparent.

In summary, in general psychotherapy research and also the substance use field, there is a dearth of research that has examined alliance using a qualitative paradigm. The literature shows how the subjective voice of the client has been injected into how alliance is experienced. The therapists’ voice is yet to be heard as loudly. What this voice has shown is that, firstly, all do not experience alliance the same. Typologies which have emerged have similarities to those identified in empirical research, but they also have their own unique viewpoint. Secondly, there are elements beyond those captured in quantitative research which clients perceive to be critical in alliance formation. Some of these, outside the contact with the therapist, such as the physical environment, could be easily responded to in order to improve treatment delivery. Finally, through tapping into the client’s subjective experience, qualitative research has produced a systemic model of addictive behaviour change that incorporates technical treatment factors, non-specific treatment factors and factors that exist in the client’s wider life context. In so doing it provides a further way of examining the relevance of the alliance concept and its relationship to change, as opposed to outcome, in the substance-using treatment population and a way of enhancing the development of theory more relevant to the addiction field.

### 3.4 Overall summary and conclusions

Alliance is a much-researched pantheoretical concept and many have examined its role in the therapeutic relationship and treatment outcome. In the main, research methodology has been based upon the empirical research paradigm, with the assessment of alliance being dominated by four common measurement tools. There are a number of methodological issues to be taken into account when considering research findings. These include rater perspective, timing of the alliance measurement, outcome measures and the role of research design and other moderators, e.g. early symptom change. To date, meta-analyses, which have examined the influence of these issues, continue to report that alliance has a small but robust effect size in the alliance-outcome relationship.
Alliance research has been dominated by studies from the area of general psychotherapy. In substance use research, comparatively less attention has been given to the importance of this concept. Extant findings from AOD specific research and general psychotherapy indicate alliance and the role alliance plays in treatment outcome may differ for substance-using treatment populations. In that the alliance-outcome relationship appears less robust, and that findings in this treatment population are more equivocal, applying conclusions from general psychotherapy research is not appropriate. Further research, specific to this treatment population, is necessary to determine the relevant factors associated with alliance in this population, and the relationship which alliance has with treatment outcome. Furthermore, given the different findings in this treatment population and the conceptual and philosophical questions that have been raised in this chapter, arguments for employing qualitative research methodologies are justified.

The current dissertation is comprised of three studies that were developed to respond to evidence gaps in alliance research. This includes the focus on substance-using treatment populations (study 1, 2 & 3); the investigation of demographic and symptom-related variables (study 1 & 2); the investigation of related variables such as treatment modality (study 1) and motivation (study 1 & 2); analysis to control for early symptom change (study 1 & 2); and the inclusion of a qualitative research component which uses an inductive method to capture a more in-depth understanding of the alliance concept (study 3).

Hypotheses were devised in response to areas where findings remain inconclusive, where further support for extant findings is warranted and where the research design of the current investigations allowed. Additional hypotheses were included in the investigation as the research design lent itself to examining these even though they were not as strongly recommended by literature.

Where possible the research methods in the current dissertation have attempted to address methodological issues discussed in Chapter 2. However, as outlined in the preface, the current studies were part of much larger research investigations. This relationship had both benefits and costs. In particular, the author had limited ability to alter the research design, thus some methodological issues that were identified remained. These are discussed within the method and discussion sections of the respective studies, as are linkages between the studies and rationale for design choices.
In conclusion, whilst the three studies are separate investigations, they have been designed in conjunction with each other to answer the overarching question posed in this dissertation: What is the role of alliance in treatment outcome for substance-using treatment populations. The final chapter, by drawing together findings from the separate studies, demonstrates how, as a body of research, they inform on the research question.
The current investigation is comprised of one major and two minor components. The overarching methodology is empiricist. The quantitative method is dominant with a qualitative method employed for one of the minor components. The rationale for the methodology employed for each of the components has been outlined in the preface.

This chapter presents the methodology for the Brief Treatment Programme (BTP) research component in the current investigation. The hypotheses are presented first, followed by a description of the method for the broader BTP study. The method for the BTP study in the current investigation is then outlined and details given for relevant standardised assessment instruments and outcome measures.

4.1 BTP hypotheses

Although alliance and the alliance-outcome relationship have been extensively researched, there are a number of areas where findings are still equivocal, particularly with regards to a substance-using treatment population. Given that this is a retrospective analysis of the existing data, it is not possible to investigate all of these areas. The hypotheses target areas that have been identified in the review chapters and those for which data allows examination.

4.1.1 Client characteristics associated with alliance

1. Hypothesis one: Clients’ demographic characteristics will not be associated with alliance.
2. Hypothesis two: Clients’ baseline drinking profile will not be associated with alliance.
3. Hypothesis three: Clients’ baseline diagnostic profile will not be associated with alliance.

4.1.2 Alliance-outcome relationship

4. Hypothesis four: Therapist-rated alliance will be positively associated with drinking outcomes at end of treatment and at follow-up.
5. Hypothesis five: Therapist-rated alliance will not be associated with drinking outcomes when early treatment response is controlled for.

6. Hypothesis six: Therapist-rated alliance will be positively associated with treatment attendance.

4.1.3 Treatment modality

7. Hypothesis seven: Alliance will be rated significantly higher for the MET group compared to the Non-Directive Reflective Learning (NDRL) group.

8. Hypothesis eight: Treatment modality will have a moderating effect on the alliance-outcome relationship.

4.2 Introduction to the BTP

The BTP was conducted by the National Centre for Treatment Development, now known as the National Addiction Centre (NAC). The purpose of the study was to investigate the effectiveness of MET in treating mild to moderate alcohol dependence, and further, to test whether or not the effectiveness of MET could be shown to exceed that of a single planned brief feedback/education session (Sellman, Sullivan, Dore, Adamson, & MacEwan, 2001). The research design was a double-blind randomized controlled trial. Appropriate consultation on the design and proposed conduct of the trial was undertaken with stakeholders including Māori, the indigenous people of New Zealand, before starting recruitment. Ethics approval was received from the Canterbury Ethics Committee.

4.3 Setting

The BTP was conducted primarily at the Christchurch Community Alcohol and Drug Service (CADS). This is a service of the Canterbury District Health Board and has a catchment population of approximately 400,000, which includes a large urban area.

District Health Boards (DHBs) are governed by the NZ Government’s Ministry of Health and services provided in accordance with national Ministry of Health service specifications. CADS services are staffed by a mix of health professionals who vary according to the service
setting. There is access to Māori, and in some services Pacific, health workers and consumer and family advisors. Treatment is individualised according to the nature of a person’s problem and includes harm minimisation and abstinence approaches.

Christchurch CADS operates as a regional, government funded adult outpatient service treating clients from 17 years of age up and not normally exceeding 65 years of age. The service provides outpatient interventions: telephone, individual, family, group and pharmacotherapies for people with a range of substance use problems. In addition, a consultation and a liaison function is provided to generalist and primary care workers across health, justice and welfare services and to workers in other community groups.

4.4 Clients

4.4.1 Recruitment

Recruitment for the BTP study occurred during 1997 and 1998. Clients were recruited through newspaper advertisements, mail-outs to General Practitioner (GP) clinics and directly from clients presenting to the CADS. A small number of clients was also recruited from the Christchurch based Youth Specialty Service (n=4). The Youth Specialty Service is also a service of the Canterbury DHB and provides mental health and AOD interventions for adolescents aged 13 to 18 years or older, if still attending secondary school. The four recruited into the BTP were aged 15, 17, 18 and 19.

4.4.2 Inclusion / exclusion criteria

There were 194 people referred to the study, of whom 125 were recruited. Inclusion and exclusion criteria aimed to define a typical sample of clinically referred patients with mild to moderate alcohol dependence, for whom a brief clinical intervention was appropriate as a first step in treatment, and where either abstinence or moderation could be appropriate treatment goals.

To be included in the study, patients needed to be willing and able to give informed consent for assessment and treatment and have alcohol dependence as the principal current disorder diagnosed by DSM-IV criteria (American Psychiatric Association, 1994).
Exclusion criteria were related to concerns about safety and unsuitability for the outpatient treatment being offered in the study. Clients were excluded from the study if they had severe dependence, for whom a more extensive treatment may have been indicated (Chick, Ritson, Connaughton, Stewart, & Chick, 1988) and for whom abstinence was advised (Sobell & Sobell, 1995). They were also excluded if they had ever had alcohol withdrawal syndrome, as defined by the DSM-IV (American Psychiatric Association, 1994), with symptoms lasting longer than 24 hours and if they had significant medical or psychiatric conditions for which normal drinking could be considered inadvisable. This included those with elevated levels of serum aspartate transaminase (AST), alanine transaminase (ALT) or a gamma glutamyl transpeptidase (GGT) which was three times that of the upper limit of the normal range.

Reasons for exclusion from the broader study are listed in Table 2. Of the 194 referred, 42 did not meet the study criteria, 25 had raised liver function tests or an alcohol withdrawal syndrome, nine had significant psychiatric or medical disorders, two were being prescribed disulfiram and six did not meet the criteria for alcohol dependence. A further 15 clients did not complete the initial assessment and 12 were excluded before randomization for miscellaneous reasons. Six dropped out, four were imprisoned, one was seconded for army duty and one had a major family conflict.

### Table 2: Reasons for exclusion from the broader BTP study

<table>
<thead>
<tr>
<th>Reason for exclusion</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not meeting alcohol dependence criteria</td>
<td>6</td>
</tr>
<tr>
<td>Raised liver function tests or alcohol withdrawal syndrome</td>
<td>25</td>
</tr>
<tr>
<td>Significant psychiatric or medical disorders</td>
<td>9</td>
</tr>
<tr>
<td>Prescribed disulfiram</td>
<td>2</td>
</tr>
<tr>
<td>Did not complete initial assessment</td>
<td>15</td>
</tr>
<tr>
<td>Dropped out</td>
<td>6</td>
</tr>
<tr>
<td>Imprisoned</td>
<td>4</td>
</tr>
<tr>
<td>Seconded for military duty</td>
<td>1</td>
</tr>
<tr>
<td>Major family conflict</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>69</strong></td>
</tr>
</tbody>
</table>
This left a sample of 125 clients, who completed the BTP with six month follow-up data obtained for 122 clients. For the most part, follow-up data were gathered directly from the client (n=100). The data for 22 clients was obtained from a reliable significant other. These 22 clients were equally distributed across the three treatment conditions.

### 4.5 Therapists

Five therapists, three female and two male, received 15 hours of group training as well as individual training sessions in both MET and Non Directive Reflective Listening (NDRL) treatment models. Four of the five therapists were subsequently recruited to deliver both MET and NDRL therapy. All were registered mental health nurses with postgraduate education. The sessions for MET and NDRL were audiotaped and used as part of ongoing fortnightly supervision for the duration of the study. A third of the way into the study an external random audit of eight therapy sessions (five MET and three NDRL) was undertaken by two independent expert clinicians. There was 100% agreement about which therapy was being employed on each tape and high ratings on a measure of the overall quality of the differing treatment condition (Sellman, et al., 2001).

### 4.6 Procedures/Research design

The BTP research design is outlined in Figure 1. All 125 clients had a two-part comprehensive assessment and feedback/education session by an assessor. Following the feedback session clients were assigned to a therapist, who provided four sessions of either MET or NDRL, or they were assigned to receive no further counselling (NFC). All clients completed a six week review. Six month follow-up data was obtained for 122 clients.
Patients with mild-moderate alcohol dependence (n=125)

Comprehensive assessment

Feedback/education session

4 sessions MET  4 sessions NDRL  No further counselling

6 week review

6 month follow-up (n=122)

Figure 1: Research design for the BTP

4.6.1 Randomization and treatment assignment

Two randomization processes were utilized for the study. The first was concerned with assessor/therapist combinations and the second with the treatment condition to be assigned to each client. The first process involved clients being consecutively assigned to the next available assessor/therapist combination from a computer-generated random list of assessor/therapist combinations held by the senior research assistant. Once the therapist was known, the second randomization process was engaged. For each therapist there was a computer-generated random list of treatment conditions assigned consecutively to clients (MET, NDRL or NFC). An administrator who was independent of the assessment and treatment selected the next option on the therapist’s list. An appropriate form letter describing the next step in treatment was then placed in a sealed envelope and forwarded to the assessor, along with educational materials, in time for the feedback session, when the client was informed of their next treatment step.

4.6.2 Baseline assessment

Baseline assessment was conducted over two interviews. The first interview was conducted by a research assistant, who firstly screened clients for eligibility and then collected data from
eligible clients on their drinking profile for the six months prior to entering the study. The second interview was conducted by one of four randomly assigned assessors, a psychiatrist, senior psychiatric trainee, and two clinical psychologists. During the second interview a clinical interview was administered and the client completed a range of self-administered standardised questionnaires.

Information collected over the two interviews included the following:

**Demographic details and treatment history**

**Diagnostic information**
- Diagnostic Interview for Genetic Studies (Nurnberger et al., 1994)
- Alcohol Use Disorder Identification Test (Saunders, Aasland, Babor, de la Fuente, & Grant, 1993)

**Alcohol related measures**

Past 6 month substance use profile
- Alcohol Timeline Followback (Sobell & Sobell, 1992)

Alcohol dependence severity
- Leeds Dependence Questionnaire (Raistrick et al., 1994)

Alcohol-related problems
- Alcohol Problems Questionnaire (Drummond, 1990)

Motivation
- Readiness to Change Questionnaire (modified) (Coynash, 1997)

Cravings (obsessional thoughts and compulsive behaviours)
- Obsessive Compulsive Drinking Scale (Anton, Moak, & Latham, 1995)
- Impaired Control Questionnaire (Stockwell, Hodgson, Edwards, Taylor, & Rankin, 1979)

**Other addiction measures**
- Cannabis Use Disorder Identification Test (Adamson & Sellman, 2003)
- South Oaks Gambling Scale (Lesieur & Blume, 1987)

**General health functioning**
- Medical Outcomes Trust 36-item Short Form Health Survey (SF-36) (Medical Outcomes Trust, 1994)
Other psychosocial measures

- Temperament and Character Inventory (Cloninger, Przybeck, Svrakic, & Wetzel, 1994)
- Social Problems Questionnaire (17-item abbreviated version) (Corney & Clare, 1985)

Collateral Information

- Drinking data checked with nominated “significant other”.

4.6.3 Feedback/education session and treatment

Assessment feedback was provided by the assigned assessor as per the feedback/education session protocols. Following this session clients were randomly assigned to a therapist, who provided treatment according to which of the three treatment conditions had been randomly assigned for their next client.

4.6.4 Treatment

Both therapy arms (MET and NDRL) received four-sessions of manualised therapy conceptualized as a series of increasing doses of therapy. One group received no further counselling (NFC group). MET was very similar to that used in Project MATCH (Project MATCH Research Group, 1998) and guided by the five key principles of expressing empathy, deploying discrepancy, avoiding argumentation, rolling with resistance and supporting self-efficacy. Specific strategies were employed within two major phases of therapy (Miller & Rollnick, 1991). For the purposes of the study, NDRL was referred to as “person-centred therapy”. NDRL consisted of non-strategic reflective listening within a therapeutic setting and was a pared back form of Rogerian counselling (Meador & Rogers, 1979). NDRL, as opposed to standard Rogerian counselling, was employed as a “placebo psychotherapy” to control for time spent with a supportive therapist and to act as a more deliberate contrast to MET. In the NDRL model therapist responses were restricted to the barest minimum (i.e. nondirective reflective listening while maintaining rapport). Clients were invited to talk about anything they wanted with the direction of content determined by the client. Content was not required to be drinking-related. The same therapeutic stance was expected to be maintained irrespective of the content presented by the client (Sellman, et al., 2001).
4.6.5 Six week review

All clients completed a six week review with their assessor following the four week period in which treatment had been delivered. The review included gathering drinking-related data using the Timeline Followback (TLFB) procedure.

4.6.6 Follow-up

Six months after the six week review, follow-up interviews were completed by a senior research assistant for 100 of the original 125 clients. Follow-up data for a further 22 clients was obtained from a significant other. This interview focused on obtaining drinking-related information via the TLFB procedure, repeated completion of relevant standardised questionnaires and assessment of general functioning.

4.7 Current study

As the current study was based on examining the therapeutic relationship between therapists and clients, it included only clients assigned to the two treatment conditions receiving therapy (MET or NDRL) and who had attended at least one of these treatment sessions. Clients assigned to the third group, NFC, were excluded. As such in the broader BTP study, of the 122 who completed the six week review, 40 were randomized to NFC. A further 13 did not attend the MET or NDRL treatment sessions they were offered. Thus, of the 82 clients randomized to one of the two active treatment conditions, 13 did not attend any treatment sessions. This produced a sample size for the present study of 69.

4.7.1 Relevant assessment measures

A range of data gathered at the time of baseline assessment in the broader BTP study, six week review and six month follow-up was found to be relevant to the current research. This included the TLFB procedure (Sobell & Sobell, 1992), the Leeds Dependency Questionnaire (LDQ) (Raistrick, et al., 2006), the Alcohol Problems Questionnaire (APQ) (Drummond, 1990) and the Readiness to Change Questionnaire (RCQ) (Rollnick, Heather, Gold, & Hall, 1992). Further details of these follow and the scales, as administered in the study, are provided in Appendix 3.
4.7.1.1 Alcohol Timeline Followback

Patterns of alcohol and other drug use for the six month period prior to the first assessment interview were obtained by a research assistant using a modified TLFB procedure (Sobell & Sobell, 1992). Data collected included number of days abstinent and drinks per drinking day. The amount consumed in a “typical” week was identified once the pattern of consumption over the full six month period had been calculated. For all clients self-reported alcohol and other drug use were validated through the use of a collateral check with a nominated significant other. Any discrepancies in reporting between the client and the significant other were reconciled, where possible, by mutual agreement between the client and research assistant.

The TLFB is an assessment method that obtains estimates of daily drinking or other drug use. It has been evaluated in both clinical and nonclinical populations. Using a calendar, people provide retrospective estimates of their daily drinking over a specified time period of up to 12 months from the interview date. Memory aids are used to prompt recall (e.g. calendar) and key dates serve as anchors for reporting drinking and quantities recorded according to a standard drink conversion\(^1\). The TLFB procedure has research applicability as it allows for several dimensions of drinking to be separated, thereby generating information on pattern, variability (scatter) and magnitude, producing continuous and categorical variables. Data collected via the TLFB is amenable to a variety of statistical analyses, survival analysis (time to relapse), profile analysis and pre- and post-treatment comparisons. Clinically the information can be used to provide feedback, enhance motivation and inform on relapse (Allen & Wilson, 2003).

Sobell and Sobell (1992) reported on the psychometric properties of the TLFB. Generally high test-retest reliability scores were reported across a variety of drinking populations. These included those in outpatient (n=12), inpatient (n=12) and residential (n=12) treatment settings, and with ‘normal drinkers’ (n=62) and college students (n=80, n=48). Moderate correlations for client-collateral concordance were also reported in six clinical studies (Sobell & Sobell, 1992). Concurrent validity has been demonstrated by moderate order correlations between the TLFB results and scores on the Alcohol Dependence Scale and Shortened Michigan Alcohol Screening Test across two studies (n=56, n=118) (Sobell & Sobell, 1992) and with biochemical markers, namely GGT (Chick, Kreitman, & Plant, 1981) and AST (Cohen & Kaplan, 1979). Good criterion validity has also been reported with satisfactory

\(^1\) NZ standard unit is equivalent to 10 grams of pure alcohol (MacEwan, 1995).
correlations between self-reported and collateral reports on the one hand, and self-reports and official records of events such as hospital admission and imprisonment on the other (Fals-Stewart, O’Farrell, Freitas, McFarlin, & Rutigliano, 2000). In addition, cross-cultural reliability and validity has been demonstrated (Sobell et al., 2001) and the TLFB can be reliably administered in a telephone interview (Sobell, Brown, Leo, & Sobell, 1996).

4.7.1.2 Leeds Dependence Questionnaire

Severity of alcohol dependence was measured using the LDQ, which offers a generic measurement of dependence on any psychoactive substance and is based on a psychological understanding of dependence (Raistrick, et al., 1994). As such dependence is not simply a product of pharmacological reinforcement, but incorporates cognitive and behavioural responses to pharmacological events with items assessing individuals’ responses to tolerance and withdrawal rather than the existence of the states themselves. On the basis that treatment focuses on treating dependence rather than consumption, it is designed as an evaluative tool sensitive to change over time and to be sensitive through the range of mild to severe dependence. The LDQ is a ten-item self-administered instrument with items scored along a 4-point Likert scale (Raistrick, et al., 1994).

Psychometric properties have been confirmed, based on a study which included various substance-using cohorts. These include opiate users (n=49), alcohol users attending an Addiction Unit (n=47), an alcohol-using student sample (n=64) and GP sample (n=14); total sample (n=174). Strong internal consistency of the construct was affirmed. Analysis identified a single factor that accounted for 64.2% of the variance. Very good internal consistency was reported with a Cronbach alpha co-efficient of .94, indicating that the instrument measured a single construct. High test-retest reliability was also reported, with retesting after 2 to 5 days resulting in a retest reliability total score of .95 (Raistrick, et al., 1994). Correlations between the LDQ and Severity of Alcohol Dependence (SADQ) (Stockwell, et al., 1979) demonstrated satisfactory concurrent validity with the pattern of results in the three alcohol using populations further supporting concurrent validity (scores were highest in addiction unit attendees and lowest in GP attendees). Convergent validity was demonstrated in correlations with the General Health Questionnaire \((r = 0.51)\), the Social Functioning Questionnaire \((r = 0.42)\) and with alcohol consumption (grams in last week; \(r = 0.68\)) (Raistrick, et al., 1994). A more recent study of a large treatment sample (n=1,681) confirmed the sound psychometric qualities of the LDQ with the authors proposing categorical score-based norms
for levels of dependence as being mild (0-15), moderate (16-23) and severe (24-30) (Heather, Raistrick, Tober, Godfrey, & Parrott, 2001). In addition, the LDQ has also been shown to measure dependence during periods of abstinence (Tober, Brearley, Kenyon, Raistrick, & Morley, 2000) and has been validated as a measure of alcohol dependence in NZ for use with English-speaking NZ European clients (n=85), NZ Māori (n=41), and Pacific Nation (n=36) in mainstream services (Paton-Simpson & MacKinnon, 1999). In the NZ population concurrent validity was supported by the correlation between the LDQ and the SADQ, which is analogous to that reported by Raistrick et al. (1994). Convergent validity was demonstrated in correlations with subscales of the SF-36, with the Social Problems Questionnaire and with alcohol consumption at intake (Paton-Simpson & MacKinnon, 1999).

4.7.1.3 Alcohol Problems Questionnaire

The degree to which clients experienced alcohol-related problems was measured using the APQ (Drummond, 1990). This self-report instrument was constructed on the assumption that alcohol dependence, consumption and problems are each conceptually distinct; and that whilst dependence is independent of consumption, it acts as a mediating factor in the consumption-problems relationship (Williams & Drummond, 1994). This means that at a given level of consumption, a more dependent individual is likely to experience more alcohol-related problems than a less dependent individual. In addition, it is possible for an individual to have a severe level of dependence but only few, mild problems (Drummond, 1990).

The BTP utilised the 23 common-item subscale. This explores the five domains of friends, finances, police, physical and psychological areas and is considered both simple and quick to administer (Drummond, 1990). Respondents answer questions on a dichotomous “yes” or “no” basis in the context of whether they apply in the previous six month period. The full questionnaire has 44 items with three other optional subscales which focus on marital, children and work domains.

Psychometric tests have been conducted to determine the reliability of the APQ and whether or not the concepts are both statistically and conceptually distinct. Two studies compared the APQ to the SADQ, which measures aspects of the dependence syndrome (Drummond, 1990; Williams & Drummond, 1994). The self-report measures were administered to people who had self-referred to alcohol treatment programmes for drinking problems (study one, n=104 and study two, n=95). Good internal validity with significant intercorrelations between nearly
all the core domains were reported, the exception being that between finance and friends (Drummond, 1990). High test-retest reliability co-efficients were reported of .7 or above on all problem areas other than the children subscale (Williams & Drummond, 1994). Construct validity of the measure was supported, and aggregated scores of items specific to alcohol consumption, dependence or problems across the SADQ and APQ were found to be highly correlated with one another. These correlations also indicated that the components were conceptually distinct. Furthermore, the mediating role of dependence was supported by the finding that the relationship between the APQ and SADQ remained significant even when controlling for questions about consumption, whereas the APQ and consumption items on the SADQ were found not to be significantly related (Drummond, 1990; Williams & Drummond, 1994).

4.7.1.4 Readiness to Change Questionnaire

The RCQ is a 12-item self-administered questionnaire, which measures the stage of change based on the Transtheoretical Stages of Change model (Rollnick, et al., 1992). This model, developed by Prochaska and DiClemente (1986), describes the four main stages through which a person moves in an attempt to resolve an addictive problem, sequentially moving from pre-contemplation to contemplation to action and then to maintenance (Prochaska & DiClemente, 1986). The RCQ consists of three 4-item scales, in which items are scored on a 5-point Likert scale. The three scales relate to stages most likely for those in treatment, i.e. pre-contemplation (P), contemplation (C) and action (A). The assigned stage is that which has the highest score. If two stages have equally high scores, the stage farthest along the continuum of change is assigned. The RCQ is considered quick and easy to administer and scoring enables a client to be assigned to a stage or to be given a continuous score (Heather, Rollnick, & Bell, 1993).

In the development of the RCQ, Rollnick et al. (1992) administered a 20-item scale to 141, mostly male (93.6%), excessive alcohol consumers identified on general hospital wards and in general practice settings. Exploratory data analysis resulted in the initial scale being shortened to a 12-item questionnaire. The authors reported good internal consistency for the three subscales, with Cronbach alpha coefficients ranging from .73 to .85. Test-retest reliability correlations ranged from .78 to .86. Satisfactory concurrent, convergent and construct validity was also reported. Concurrent validity was established through comparison of the assigned stage with patient’s selection of a stage of change cartoon which best described how they felt.
Concurrent validity was also confirmed by significant associations reported between the allocated stage of change and related questions on screening instruments (Rollnick, et al., 1992). Predictive validity has been reported from research with male patients in general hospitals who had been identified as excessive drinkers and who had received a brief alcohol intervention. This research found that the stage of change allocated by the RCQ was a significant predictor of treatment outcome (Heather, et al., 1993).

A modified version of the RCQ has been developed for use in the NZ population with wording changed to increase comprehensibility. Psychometric properties in the modified version were found to be comparable to the original (Coynash, 1997).

### 4.7.2 Therapeutic alliance

As stated previously, the current study was considered an exploratory investigation of the alliance-outcome relationship in an alcohol dependent population, with a primary purpose being to inform on the larger ongoing TEAM investigation. A standardised measure of alliance had not been included in the original BTP study design and thus, for the current study, the measure of alliance was derived from a questionnaire which focused on the therapist’s experience of working with the client. This was considered a suitable measure of alliance given the exploratory context and following psychometric testing, detail of which is provided.

The seven-item questionnaire on which the measure of alliance was based was completed by the therapist after the fourth and final session, or at week six for clients not attending their final appointment. The questionnaire was developed by the BTP research group and the content was based on the research group’s collective clinical experience. The seven items on the questionnaire were rated on a 10-point Likert scale.

Psychometric properties of the questionnaire were examined by factor analysis which was conducted to determine if items tapped into a single construct. Tests of internal reliability were also examined using Cronbach’s alpha. This is a measure of internal consistency of a multiple item questionnaire and is suitable when a test is administered only once as in this study (Tavakol & Dennick, 2011). Prior to this analysis it was decided to omit one item, “Overall, how effective did you think the therapy was for this patient in terms of them reducing their drinking” as it was too closely aligned with outcome (change in drinking). It
posed the risk that a measure of alliance including this item would be a confounder when examining the relationship between therapeutic alliance and outcome.

Factor analysis on the six items extracted one factor (eigenvalue 72.08) and thus indicated the measure was unidimensional. The test for internal reliability produced a Cronbach alpha coefficient of .47 and did not support the inclusion of two items: *How many counselling sessions did the patient complete?* and *Overall, how stressful (i.e. frustrated/anxious/dissatisfied) did you find the therapy with this patient?*

Factor analysis of the remaining four items extracted one factor (eigenvalue of 81.43), which accounted for 81% of variance. These items had very good internal reliability with a Cronbach alpha coefficient of .94. Thus, statistical analysis supported a measure based on scores from four items in the seven-item questionnaire as listed in Figure 2.

![Figure 2: Four-item therapeutic alliance measure](image)

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**4.8 Client characteristics examined for their association with alliance**

Statistical tests of association (Pearson’s correlation for continuous variables and chi square for categorical variables) between baseline variables and alliance measures were conducted. Selection was based on extant research findings and included three categories, demographic, diagnostic and drinking-related variables as listed below.
4.8.1 Demographic characteristics

- Age
- Gender
- Education or training
- Marital status
- Current employment
- Of Māori descent

Education was measured as number of years in full-time study or equivalent, in the case of part-time study. Ethnicity was dichotomised (of Māori descent or not) due to the low number of other ethnic groups clients identified.

4.8.2 Diagnostic variables

- Age of onset of alcohol dependence
- Mood disorder – lifetime
- Mood disorder – current
- Anxiety disorder – lifetime
- Anxiety disorder – current

4.8.3 Drinking-related variables

- PDA (detailed below)
- DDD (detailed below)
- LDQ score
- APQ score
- RCQ score

4.9 Outcome measures

As this investigation is an exploratory one, a variety of outcome measures was included. The primary outcome measures were PDA (percent days abstinent) and DDD (drinks per drinking day) as measures of drinking (frequency and intensity). Advantages of using PDA and DDD
as outcome measures have been outlined in Chapter Two. They have been selected for four main reasons: empirical research has reported that both PDA and DDD are sensitive to change and independent of each other (Barbor, et al., 1994); they are good predictors of outcome (Adamson, et al., 2009); they can be employed repeatedly throughout a study; and their popularity enhances comparability with other research, e.g. Project MATCH (Project MATCH Research Group, 1997), UKATT (UKATT Research Team, 2005) and COMBINE (The COMBINE Study Research Group, 2003).

PDA and DDD were derived from data obtained through the TLFB procedure (Sobell & Sobell, 1992) and were calculated as follows:

\[
PDA = \frac{\text{Total number of abstinent days}}{(\text{total number of days} - \text{institutional days})};
\]

\[
DDD = \frac{\text{Typical standard units consumed weekly}}{7}(1 - PDA).
\]

These outcomes were reported on at two timepoints; the first, at the end of treatment, was the six week timepoint when therapy had been completed. This was usually scheduled for the same day immediately after the final therapy appointment. The second timepoint was treatment outcome at the six month follow-up. To account for variance in baseline drinking levels, PDA and DDD change scores were calculated between baseline and six weeks, and PDA and DDD change score between baseline and 26 weeks (six months).

A number of secondary outcome measures were also used, all at the six month timepoint. This included Unequivocally Heavy Drinking (UHD), defined as drinking ten or more standard drinks on six or more days over the six month follow-up (this was an *apriori* primary outcome for the broader BTP study) (Sellman, et al., 2001), level of alcohol dependence assessed by the LDQ (Raistrick, et al., 1994) and the extent of alcohol-related problems measured according to the APQ (Drummond, 1990). As with primary measures, change scores were calculated between baseline and six month LDQ and APQ scores to account for variance in pre-treatment baseline scores.

Whilst abstinence is a commonly employed outcome measure in research, the explicit acceptance of controlled drinking as a goal in the BTP resulted in the measure of UHD being employed in preference to abstinence. And, as this was an exploratory study, the opportunity was taken to include measures of alcohol-related problems in analysis. A dichotomous variable pertaining to attendance was included with grouping based on whether clients attended all four sessions or fewer than four sessions.
4.10 Data analysis

Statistical analysis of data was conducted using the Statistical Package for the Social Sciences programme, version 20.0.

4.11 Variable properties

4.11.1 Tests of normality

All continuous dependent and independent variables, including change scores, were examined to confirm that they were normally distributed, as required for application of regression, t-tests, and Pearson’s correlations. Log 10 transformations were considered for variables violating these assumptions.

4.11.2 Tests of linearity

The association of alliance, the predictor variable, and the categorical outcomes measures were examined using crosstabulations.

4.11.3 Univariate analysis

The strength of associations between continuous independent and dependent variables was calculated using Pearson’s correlation coefficients following transformations. The effect of early treatment response as a confounder on six month outcomes was examined using partial correlations controlling for change in PDA and DDD between baseline and six weeks.

Independent t-tests were employed to examine the association between alliance and the categorical variables of attendance and treatment modality. Binary logistic regression analysis was conducted to determine the predictive power of alliance with regard to UHD.

4.11.4 Interaction effects

The interaction effect of treatment condition was examined using partial correlations which controlled for treatment assignment and initial treatment response in the alliance-outcome relationships.
4.12 Missing data

To account for data lost to follow-up, the Last Observation Carried Forward (LOCF) convention was employed for all missing data on outcome measures. LOCF is a single imputation method which replaces a missing value at a specific timepoint with the most recent observed value on the same client. This results in a completed data set on an intention-to-treat basis (Lane, 2008). The only remaining missing data comprises data from those clients assigned to treatment, but who did not attend.

This traditional method of treatment for missing data was employed on the basis that it is a conservative approach which tends to underestimate treatment effects. It was also used because of the relatively few measurement timepoints included in the study, the small amount of missing data and the 84% follow-up rate. For the 20 (16%) unable to be contacted for follow-up interviews, in all cases a nominated significant others expressed enough confidence to categorise UHD based on gross drinking status.

4.13 Power analysis

For Pearson’s correlations a moderate correlation ($r = .30$), between variables is considered meaningful. To detect a moderate correlation a sample of 64 clients will provide 80% with type I error set at $\alpha=0.05$. The study had a sample size of 69.

For an independent two tailed t-test of two even sized samples, total $n= 69$, and power set at 80% and $\alpha=0.05$, a Cohen’s d of 0.69 can be detected.
CHAPTER FIVE: BTP RESULTS

The presentation of the results from analysis of the BTP data begins with a description of variable properties in terms of their assumptions of normality and linearity. Overall outcome data for the sample as a whole will be briefly summarised, followed by a description of the current sample, including a summary of their drinking and mood over the course of the study. Findings will then be presented as they relate to the research questions the investigation sought to answer. Firstly, findings pertaining to the association between client characteristics and alliance will be presented, followed by those regarding the association between alliance and treatment condition. As the BTP was a comparative study of treatment modalities (MET and NDRL), findings will be presented with regard to whether or not treatment modality had a moderating role in the alliance-outcome relationship.

5.1 Variable properties

5.1.1 Assumptions of normality

All continuous dependent and independent variables for analysis, including change scores, were examined to confirm that they were normally distributed, as required for application of regression, t-tests and Pearson’s correlations. Log10 transformations were performed on four variables which violated the assumptions, these being the number of years in education or training, DDD baseline, DDD six weeks and DDD six months. As two of these variables, DDD six weeks and DDD six months, included zero scores the variables were first reflected by adding +1 prior to the log transformation. In all instances transformed variables met assumptions of normality. Since no other anomalies in distribution were found, normal parametric testing proceeded.

5.1.2 Assumptions of linearity

The bivariate association of variables with the different outcome measures were examined visually to ensure that associations were linear. For the association with continuous predictor variables tests for linearity involved producing scatterplots to allow for the visual inspection of outliers or other unusual patterns. For categorical outcome measures
crosstabulations were produced and examined. No significant non-linear relationships were observed.

5.2 Overall outcomes for the broader BTP study

The broader BTP study reported a significant treatment effect. Improved drinking outcomes were indicated by a reduction in nonabstinence rates and decreases in the rate of those drinking over national guidelines and at levels defined as UHD. The study also reported an increase in overall general functioning for the whole sample. In terms of differential effects between the treatment conditions, clients receiving MET achieved better drinking outcomes at six months than either the NDRL or the no-further-counselling group. Drinking outcomes for those receiving NDRL were not significantly different from those assigned to no further counselling (Sellman, et al., 2001).

5.3 Sample description

5.3.1 Demographic characteristics

Of the original 125 clients who completed the assessment and feedback sessions, 69 were randomized to counselling and attended at least one therapy session, so were included in the current study. Demographic characteristics of the sample are provided in Table 3 below. Those included in the study ranged from 17 to 59 years of age, with a mean age of 37.6 years (SD 10.4). Slightly over half of the clients were male (53.6%). There were 10.1% who identified their ethnicity as Māori. Almost half of clients were married or cohabiting (46.4%), with the mean number of years in education or training 12.1 (range 8-20 years, SD 3.1). The mean age at the onset of alcohol dependence was 28.5 years (range 14-43 years, SD 10.6).
Table 3: Demographic characteristics of clients (n= 69)

<table>
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<th></th>
<th>N</th>
<th>%</th>
<th>X years</th>
<th>Range</th>
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<tr>
<td>Female</td>
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<td></td>
</tr>
<tr>
<td>Māori</td>
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<td></td>
</tr>
<tr>
<td>Married or cohabiting</td>
<td>26</td>
<td>46.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education or training</td>
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<td>8-20</td>
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<tr>
<td>Age of onset of alcohol dependence</td>
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<td></td>
<td>28.5</td>
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<tr>
<td>History of mood disorder</td>
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<td>48.4</td>
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<td>Current mood disorder</td>
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<tr>
<td>History of anxiety disorder</td>
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<tr>
<td>Current anxiety disorder</td>
<td>14</td>
<td>11.5</td>
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</tbody>
</table>

5.3.2 Drinking and diagnostic profile at baseline

Over the six months preceding entry to the study, the mean PDA for clients was .35 (range 0-97%, SD .31) and mean number of DDD was 14.19 (range 4-67; SD 12.85) (see Table 5). At baseline the mean LDQ score was 9.85 (SD 5.14) with 85.1% scoring in the “mild” range (0-15); 13.5% in the “moderate” range (16-23) and 1.4% in the “severe” range (24+). The mean APQ score was 7.01 (SD 3.59), which indicates that on average clients experienced approximately 7 of the potential 23 alcohol-related problems during the previous six months.

Of the 69 people, 19.7% were identified to have a current mood or anxiety disorder, and 11.6% had a current diagnosis of cannabis dependence. The lifetime history of mood disorder was 48.4% and 23% had a lifetime history of an anxiety disorder.

5.3.3 Missing to follow-up

Sixty of the 69 receiving treatment completed the six month follow-up interview. For the remaining nine, contact was achieved with a nominated significant other who provided some follow-up data.
Table 4: Comparison of clients followed up at six months with those unable to be contacted at follow-up

<table>
<thead>
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<th>Followed up (n=60)</th>
<th>Missing at follow-up (n=9)</th>
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</thead>
<tbody>
<tr>
<td>Age (X̄ and range)</td>
<td>37.8 yrs (19-59 yrs)</td>
<td>36.7 yrs (17-58 yrs)</td>
</tr>
<tr>
<td>Male</td>
<td>55.0%</td>
<td>44.4%</td>
</tr>
<tr>
<td>Māori</td>
<td>7.2%</td>
<td>22.2%</td>
</tr>
<tr>
<td>Married</td>
<td>46.7%</td>
<td>44.4%</td>
</tr>
<tr>
<td>Education or training (X̄ and range)</td>
<td>12.17 yrs (9-20 yrs)</td>
<td>11.33 yrs (9-16 yrs)</td>
</tr>
<tr>
<td>Mean age of onset of alcohol dependence</td>
<td>28.8 yrs</td>
<td>26.2 yrs</td>
</tr>
<tr>
<td>PDA (X̄)</td>
<td>.34</td>
<td>.47</td>
</tr>
<tr>
<td>DDD (X̄ and range)</td>
<td>13 (4-54)</td>
<td>24 (5-67)</td>
</tr>
<tr>
<td>LDQ score (X̄)</td>
<td>9.65</td>
<td>11.57</td>
</tr>
<tr>
<td>APQ score (X̄)</td>
<td>6.88</td>
<td>8.14</td>
</tr>
</tbody>
</table>

To determine if those followed up at six months differed significantly from those unable to be followed up, the two groups were compared on demographic and baseline drinking-related variables (see Table 6). Independent t-tests were used to compare the continuous variables and chi square for the categorical. For baseline demographic variables there were no statistically significant differences between those who were followed up at six months compared with those who were not. Nor were there any statistically significant differences between the two groups on baseline PDA, APQ and LDQ scores. Baseline DDD was compared using the transformed log10 DDD variable. Again, the difference between the groups was not significant, although it should be noted that two outliers among the nine not followed up drank particularly high numbers of drinks per drinking day, in comparison to the other seven.

5.3.4 Pattern of drinking over the six month study

Drinking measures at baseline and six weeks (end of treatment) and change scores between baseline and six weeks and baseline and six months provide a summary of the drinking profile of the sample over the course of the study. These findings are presented in Table 5 and show that changes were consistent with improved drinking outcomes. Furthermore, for those outcomes assessed at two timepoints (PDA and DDD), most change occurred in the first six
weeks. There was a slight improvement in PDA between six weeks and six months. However, DDD, which had decreased between baseline and six weeks, showed a slight increase between six weeks and six months, although DDD did not return to baseline levels.

| Table 5: Outcome measures at baseline, six weeks, six months and change scores |
|-------------------------------------------------|------------------|-----------------|-----------------|-----------------|
| PDA (n=69)                                      | X (SD)           | DDD (n=69)      | X (SD)           | LDQ (n=67)      | X (SD)           | APQ (n=67)      | X (SD)           |
| T1 (baseline)                                   | .35 (.31)        | 14.19 (12.85)   | 9.85 (5.14)      | 7.01 (3.59)     |
| T2 (6 weeks)                                    | .57 (.34)        | 7.81 (11.72)    | 6.82 (6.00)      |                 |
| T3 (6 months)                                   | .60 (.33)        | 9.81 (12.73)    |                 | 4.53 (4.60)     |
| Change scores                                   | .218 (.31)       | -6.38 (8.57)    | -3.02 (5.41)     |                 |
| T1 to T2                                        |                 | 2.00 (6.70)     |                 | -2.47 (3.90)    |
| T2 to T3                                        |                 |                 |                 |                 |
| T1 to T3                                        | .246 (.29)       | -4.37 (9.08)    |                 |                 |

5.3.5 Alliance

The mean alliance score was calculated by dividing the total Likert rating by the number of questions. The maximum possible score was 10. The mean therapist-rated alliance score for the 69 clients was 7.12 (SD 1.67), with scores ranging from 1.25 to 10.

5.4 Associations between alliance and baseline variables

Tests were conducted with demographic variables and baseline diagnostic and drinking-related variables to determine if they were significantly associated with therapist-rated alliance at six weeks. Details of these associations are provided in Table 6. Two demographic variables were found to be significantly related to alliance. The older the client the greater the alliance ($r = .395$, $p < .01$) and the greater the number of years in education or training, the greater the alliance ($r = .281$, $p < .05$). Of the diagnostic and drinking-related variables, only age of onset of alcohol dependence was found to be significantly related to alliance. As such, the older that clients were at the age of onset the greater the alliance ($r = .266$, $p < .05$). However, it is important to note that client’s age and their age at onset of alcohol dependence were
significantly related ($r = .752, p < .001$). Also, when controlling for current age, alliance and age of onset of alcohol dependence were no longer significantly related ($r = -.051, p = .68$). None of the baseline drinking profile variables (PDA, DDD, LDQ, APQ & RCQ) was related to alliance.

Table 6: Associations between alliance and baseline client characteristics

<table>
<thead>
<tr>
<th></th>
<th>Pearson’s R</th>
<th>Mean</th>
<th>SE</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Demographic</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>.395**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education (log10)</td>
<td>.281*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Male</td>
<td>6.82</td>
<td>.261</td>
<td>.12</td>
<td></td>
</tr>
<tr>
<td>- Female</td>
<td>7.46</td>
<td>.304</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married or cohabiting</td>
<td>6.82</td>
<td>.280</td>
<td>.11</td>
<td></td>
</tr>
<tr>
<td>Not married or cohabiting</td>
<td>7.47</td>
<td>.282</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed</td>
<td>7.10</td>
<td>.237</td>
<td>.85</td>
<td></td>
</tr>
<tr>
<td>Not employed</td>
<td>7.19</td>
<td>.349</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Māori</td>
<td>6.82</td>
<td>.480</td>
<td>.62</td>
<td></td>
</tr>
<tr>
<td>Not of Māori descent</td>
<td>7.15</td>
<td>.218</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Drinking Profile</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PDA</td>
<td>-.219</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DDD (log10)</td>
<td>-.168</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LDQ score</td>
<td>-.039</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>APQ score</td>
<td>-.043</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RCQ score (continuous)</td>
<td>.199</td>
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<td></td>
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<tr>
<td><strong>Diagnostic profile</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Age of onset of alcohol dependence</td>
<td>.266*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lifetime history of mood disorder</td>
<td>7.02</td>
<td>.278</td>
<td>.66</td>
<td></td>
</tr>
<tr>
<td>No history of mood disorder</td>
<td>7.20</td>
<td>.287</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current mood disorder</td>
<td>7.08</td>
<td>.213</td>
<td>.57</td>
<td></td>
</tr>
<tr>
<td>No current mood disorder</td>
<td>7.48</td>
<td>.638</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lifetime history of anxiety disorder</td>
<td>7.02</td>
<td>.245</td>
<td>.41</td>
<td></td>
</tr>
<tr>
<td>History of anxiety disorder</td>
<td>7.40</td>
<td>.336</td>
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<td></td>
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<tr>
<td>Current anxiety disorder</td>
<td>7.06</td>
<td>.223</td>
<td>.44</td>
<td></td>
</tr>
<tr>
<td>No current anxiety disorder</td>
<td>7.50</td>
<td>.442</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SF General health</td>
<td>-.008</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

** **p < .01, * p < .05
5.5 Association between alliance and session attendance

Eighty-four per cent of clients attended all four sessions. With such a large proportion attending four sessions, attendance was divided into two groups, thus creating a dichotomous binary variable, those attending all four sessions and those attending one to three sessions. An independent t-test was used to compare groups. Results showed that therapists rated alliance more positively when clients attended all four sessions compared with one to three sessions (7.44 compared with 5.46, \( t = -3.97, p = .001 \)). This is a large effect size (ES = 1.24).

5.6 Association between alliance and treatment outcome

To account for differences in baseline drinking profile, outcome measures were based on change scores between the differing timepoints (baseline, six weeks and six months). The relationship between these change scores and fixed outcome measures at the various timepoints and alliance were examined.

5.6.1 Primary outcome measures: Drinking frequency and intensity

The relationship between the primary outcome measures of drinking frequency (PDA) and intensity (DDD) both at individual timepoints and change scores between timepoints, are presented in Table 7. Alliance was marginally correlated with change in PDA between baseline and six weeks (\( r = .235, p = .052 \)). That is, the greater the alliance, the greater the increase in PDA between the two timepoints. Results also indicate a trend towards significance between alliance and baseline PDA (\( r = -.219, p = .07 \)), the greater the PDA at baseline, the greater the alliance at six weeks. There were no significant associations between alliance and DDD at the individual timepoints or changes in DDD. Although a trend towards significance was found with alliance and DDD at six months, the greater the alliance the lower the DDD (\( r = -.220, p = .07 \)).
Table 7: Correlations between alliance and primary outcome measures

<table>
<thead>
<tr>
<th></th>
<th>PDA (n=69)</th>
<th></th>
<th>DDD (n=69)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>r</td>
<td>p</td>
<td>r</td>
<td>p</td>
</tr>
<tr>
<td>T1 (baseline)</td>
<td>-.219</td>
<td>.020</td>
<td>-.168</td>
<td>.17</td>
</tr>
<tr>
<td>T2 (6 weeks)</td>
<td>.020</td>
<td>.87</td>
<td>-.194</td>
<td>.11</td>
</tr>
<tr>
<td>T3 (6 months)</td>
<td>-.020</td>
<td>.87</td>
<td>-.220</td>
<td>.07</td>
</tr>
<tr>
<td>Change scores</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T1 to T2</td>
<td>.235</td>
<td>.052*</td>
<td>.080</td>
<td>.52</td>
</tr>
<tr>
<td>T2 to T3</td>
<td>-.068</td>
<td>.58</td>
<td>-.172</td>
<td>.16</td>
</tr>
<tr>
<td>T1 to T3</td>
<td>.204</td>
<td>.09</td>
<td>-.063</td>
<td>.61</td>
</tr>
</tbody>
</table>

* p = .052

5.6.2 Secondary outcome measures: Dependence level and alcohol-related problems

Measures of severity of dependence (LDQ) and alcohol-related problems (APQ) were taken at baseline and six month timepoints only. Change scores were calculated between these two timepoints to account for variance in baseline levels. The association between these variables and alliance are presented in Table 8. Therapeutic alliance was significantly correlated with APQ at six months ($r = -.253$, $p < .05$) and with change in APQ between baseline and six months ($r = -.259$, $p < .05$). That is, the greater the alliance, the lower the score on APQ at six months and the greater the reduction in APQ scores between the two timepoints. No significant relationships were found between alliance and LDQ scores.

Table 8: Correlations between alliance and drinking-related measures

<table>
<thead>
<tr>
<th></th>
<th>LDQ (n=67)</th>
<th></th>
<th>APQ (n=67)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>r</td>
<td>p</td>
<td>r</td>
<td>p</td>
</tr>
<tr>
<td>T1 (baseline)</td>
<td>-.039</td>
<td>.76</td>
<td>-.043</td>
<td>.73</td>
</tr>
<tr>
<td>T3 (6 months)</td>
<td>-.120</td>
<td>.33</td>
<td>-.253</td>
<td>.04*</td>
</tr>
<tr>
<td>Change score</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T1 to T3</td>
<td>-.097</td>
<td>.44</td>
<td>-.259</td>
<td>.04*</td>
</tr>
</tbody>
</table>

* p < .05
5.6.3 Controlling for early changes in drinking

Partial correlations were used to control for the effect of early change in drinking, that is, change in drinking frequency or intensity or both combined, on the alliance-outcome relationship. Findings on primary outcomes are presented in Table 9 and secondary outcomes in Table 10. When controlling for early change in DDD, the relationship between alliance and DDD at six months was significant, that is, the less clients drank per drinking day the greater the alliance. Prior to controlling for change in DDD, this relationship had only shown a trend in this direction. In contrast, controlling for initial change in PDA rendered the relationship nonsignificant as did controlling for combined initial change in DDD and PDA.

<table>
<thead>
<tr>
<th>Table 9: Partial correlations with alliance and primary outcomes, controlling for early change in drinking</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Controlling for early change in PDA</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>DDD T1 (baseline)</td>
</tr>
<tr>
<td>DDD T2 (6 weeks)</td>
</tr>
<tr>
<td>DDD T3 (6 months)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>DDD T1 to T2</td>
</tr>
<tr>
<td>DDD T1 to T3</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>PDA T1 (baseline)</td>
</tr>
<tr>
<td>PDA T2 (6 weeks)</td>
</tr>
<tr>
<td>PDA T3 (6 months)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Change scores</td>
</tr>
<tr>
<td>PDA T1 to T2</td>
</tr>
<tr>
<td>PDA T1 to T3</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

* p = .05

Prior to controlling for initial treatment response, the relationships between alliance and change in APQ scores between baseline and six months, and alliance and APQ score at six months were significant. These relationships remained significant when controlling for change in DDD between baseline and six weeks ($r = -.26, p < .05$ and $r = -.25, p < .05$
respectively). In contrast, after controlling for change in PDA between baseline and six weeks, the relationships were no longer significant, although a trend was still indicated.

### Table 10: Partial correlations with alliance and secondary outcomes controlling for early change in drinking

<table>
<thead>
<tr>
<th></th>
<th>Controlling for early change in PDA</th>
<th>Controlling for early change in DDD</th>
<th>Controlling for early change in PDA &amp; DDD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>r</strong></td>
<td><strong>p</strong></td>
<td><strong>r</strong></td>
<td><strong>p</strong></td>
</tr>
<tr>
<td>APQ T1 (baseline)</td>
<td>-.04</td>
<td>.73</td>
<td></td>
</tr>
<tr>
<td>APQ T3 (6 months)</td>
<td>-.25</td>
<td>.04*</td>
<td>-.21</td>
</tr>
<tr>
<td>Change score APQ T1 to T3</td>
<td>-.26</td>
<td>.04*</td>
<td>-.22</td>
</tr>
<tr>
<td>LDQ T1 (baseline)</td>
<td>-.04</td>
<td>.76</td>
<td></td>
</tr>
<tr>
<td>LDQ T3 (6 months)</td>
<td>-.12</td>
<td>.33</td>
<td></td>
</tr>
<tr>
<td>Change score LDQ T1 to T3</td>
<td>-.10</td>
<td>.44</td>
<td></td>
</tr>
</tbody>
</table>

* p < .05

### 5.6.4 Alliance and Unequivocal Heavy Drinking

At the six month follow-up the sample was almost evenly split between those who met the criteria for the dichotomous variable UHD (n=33, 48%) and those who did not (n=36, 52%). The single independent measure of alliance mean score was entered in a binary logistic regression to predict UHD at six months. This yielded a non-significant model in which 62% of clients were successfully categorised at six months (Cox & Snell R² = .044, Wald = 2.852, p = .091).

### 5.7 Treatment modality

#### 5.7.1 Association between alliance and treatment modality

Slightly more clients in the sample were assigned to MET (n=38, 55%) compared to NDRL (n =31, 45%). An independent t-test was used to determine if alliance was associated with treatment modality. While alliance was rated slightly higher in the MET group, the difference in alliance between the groups was not significant (7.4 compared with 6.8, t = -1.453, p = .151).
5.7.2 Treatment modality and the alliance-outcome relationship

The interaction effect of treatment modality was examined using partial correlations that tested for the moderating influence of treatment modality on the alliance-outcome relationship (see Table 11). After controlling for treatment modality, the relationship between alliance and change in PDA from baseline to six weeks remained unaffected (p = .051); the greater the alliance, the greater the increase in PDA. Trends towards significance with alliance and baseline PDA measures also remained. In contrast, there was no longer a trend between alliance and DDD at six months.

### Table 11: Partial correlations between alliance and treatment outcomes

<table>
<thead>
<tr>
<th></th>
<th>Controlling for treatment modality</th>
<th>Controlling for treatment modality and corresponding early treatment response</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>r</td>
<td>p</td>
</tr>
<tr>
<td>DDD T1 (baseline)</td>
<td>-.17</td>
<td>.18</td>
</tr>
<tr>
<td>DDD T2 (6 weeks)</td>
<td>-.12</td>
<td>.31</td>
</tr>
<tr>
<td>DDD T3 (6 months)</td>
<td>-.21</td>
<td>.09</td>
</tr>
<tr>
<td>Change scores</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DDD T1 to T2</td>
<td>.08</td>
<td>.52</td>
</tr>
<tr>
<td>DDD T1 to T3</td>
<td>-.06</td>
<td>.61</td>
</tr>
<tr>
<td>PDA T1 (baseline)</td>
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<td>.07</td>
</tr>
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<td>PDA T2 (6 weeks)</td>
<td>.02</td>
<td>.87</td>
</tr>
<tr>
<td>PDA T3 (6 months)</td>
<td>-.02</td>
<td>.87</td>
</tr>
<tr>
<td>Change scores</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PDA T1 to T2</td>
<td>.24</td>
<td>.05#</td>
</tr>
<tr>
<td>PDA T1 to T3</td>
<td>.20</td>
<td>.09</td>
</tr>
<tr>
<td>APQ T1 (baseline)</td>
<td>-.04</td>
<td>.73</td>
</tr>
<tr>
<td>APQ T3 (6 months)</td>
<td>-.25</td>
<td>.04*</td>
</tr>
<tr>
<td>Change score</td>
<td></td>
<td></td>
</tr>
<tr>
<td>APQ T1 to T3</td>
<td>-.26</td>
<td>.04*</td>
</tr>
<tr>
<td>LDQ T1 (baseline)</td>
<td>-.04</td>
<td>.76</td>
</tr>
<tr>
<td>LDQ T3 (6 months)</td>
<td>-.12</td>
<td>.33</td>
</tr>
<tr>
<td>Change score</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LDQ T1 to T3</td>
<td>-.10</td>
<td>.44</td>
</tr>
</tbody>
</table>

* p < .05, # p = .05
Finally, when controlling for both treatment modality and corresponding initial treatment response, i.e. change in PDA or DDD between baseline and six weeks, the trend between alliance and change in PDA between baseline and six months was no longer apparent.

The relationship between alliance and alcohol-related problems (APQ) at six months, and the change in alcohol-related problems between baseline and six months remained significant when controlling for treatment modality, but not when controlling for both treatment modality and early treatment response.

5.8 Summary of results

Improvements in drinking-related outcomes were evidenced, with most changes occurring during the first six weeks and sustained at six months.

Two demographic characteristics were significantly related to alliance: age and education/training (hypothesis 1): the older the client, the greater the alliance, and the more years in education or training, the greater the alliance. With regards to diagnostic variables, the age of onset of alcohol dependence was significantly associated with alliance, whereby the later the age of onset the greater the alliance, although this appears to be an artefact of the association between age and age of onset alcohol dependence (hypothesis 2). No baseline drinking-related measures were related to alliance (hypothesis 3).

With regard to the alliance-outcome relationship and the primary outcome measures of PDA and DDD, the only significant relationship found was that between alliance and change in PDA between baseline and six months; the greater the improvement in PDA the greater the alliance. Although not significant, a trend was evident between PDA at baseline and alliance and between alliance and DDD at six months; the greater the PDA at baseline, the greater the alliance at six weeks; and the greater the alliance, the lower the DDD at six months (hypothesis 4).

Alliance was significantly related to the secondary outcome measure of change in APQ score between baseline and six months and APQ at six months; the greater the alliance, the greater the change in APQ score between timepoints and the lower the APQ at six months. Alliance was unable to predict those who met criteria for UHD at six months (hypothesis 4).
Significant relationships between alliance and APQ remained when controlling for initial treatment response as measured by change in drinking intensity (DDD); controlling for this change also resulted in the association between alliance and DDD at six months reaching significance, that is the greater the alliance, the lower the DDD at six months. However, when controlling for initial treatment response, as assessed by change in PDA or change PDA and DDD, these relationships were rendered nonsignificant (hypothesis 5).

Therapists rated alliance more positively for clients who had attended all four sessions, compared to those who had attended one to three (hypothesis 6).

While alliance was rated slightly higher for those assigned to MET compared to those receiving NDRL, this difference was not significant (hypothesis 7). Significant relationships between alliance and outcome measures remained after controlling for treatment modality (alliance and PDA change score, alliance and APQ at six months and alliance and APQ change score) (hypothesis 8).
CHAPTER SIX: BTP DISCUSSION

The BTP was an exploratory study that provided some guidance for the subsequent TEAM investigation. Several aspects of the alliance and the alliance-outcome relationship were investigated in both studies. Findings from the BTP study will be discussed in relation to the BTP hypotheses (refer section 4.1). In this chapter a brief comment will be made in regard to areas common to both studies, such as baseline drinking variables and drinking outcomes. As the TEAM investigation constituted the larger part of the investigation, to avoid potential repetition, and in keeping with the exploratory nature of the BTP investigation, further consideration of the BTP findings will provided in the TEAM discussion chapter.

6.1 Alliance

6.1.1 Hypothesis one: Client demographic characteristics

*Hypothesis one stated: Clients’ demographic characteristics will not be associated with alliance.*

The current study found that clients’ age and years in formal education were associated with alliance, while ethnicity was not (refer section 5.4, Table 6). Therapists rated alliance higher for older clients and for those with more years in education. Findings in AOD research with respect to the association between client demographic characteristics and alliance have been mixed. The relationship between education and therapist alliance ratings in the current study is consistent with findings reported by Belding et al. (1997) in their study of clients receiving MMT (Belding, et al., 1997). Increased age and education were associated with greater alliance in Project MATCH, but for both variables this held only in regard to client ratings, not therapists, and only in the outpatient arm (Connors, et al., 2000). In contrast, other studies have found that age and education are not significantly associated with alliance (De Weert-Van Oene, et al., 2001; Meier, Donmall, et al., 2005b).

Conversely, whilst gender was not associated with therapist alliance in the current study, this association has been found in earlier research (Connors, et al., 2000; Meier, Donmall, et al., 2005). It should be noted, however, that Connors et al. (2000) reported that the client being
female was associated with higher therapist alliance. The opposite was reported by Meier et al. (2005b) where higher therapist ratings were associated with clients being male.

In the current study the lack of association between alliance and marital and employment status is consistent with findings from other AOD research on these variables (Öjehagen, et al., 1997). Similarly, the lack of association between alliance and ethnicity is consistent with most AOD research which has reported on ethnicity in relation to alliance (Belding, et al., 1997; Meier, Donmall, et al., 2005b; Öjehagen, et al., 1997). Moreover, whilst some differences in relation to the task component of alliance were reported between ethnic groups in Project MATCH (Tonigan, 2003), this was on the basis of client ratings of alliance, rather than therapist ratings, as reported in the BTP study. It was also with notably different ethnic groups, Hispanic and African American in Project MATCH compared to Māori in the BTP study.

The current study adds to the tenuous link between alliance and client demographic features. The difficulty in finding a consistent pattern suggests any associations are unlikely to be straightforward. Alternatively, it may also indicate that only a weak association exists between alliance and demographic variables. Also, in that a number of associations were tested one would expect at least some associations to have occurred by chance. Future investigations of the interactions between demographic characteristics and other variables may elucidate whether they are associated with alliance in a more complex fashion or if a consistent weak pattern of association exists with specific client characteristics such as gender.

6.1.2 Hypothesis two: Baseline drinking-related variables

Hypothesis two stated: Clients’ baseline drinking profile will not be associated with alliance.

Baseline drinking-related variables were found not to be associated with alliance. Previous research in this area, including that specific to an alcohol dependent population, has reported mixed findings. Connors et al. (2000) observed that in Project MATCH poorer therapist alliance was predicted by baseline drinking variables, whereas Ojehagan et al. (1997) reported that alliance, based on observers’ ratings, was not associated with baseline alcohol use. This discrepancy may be a result of the different rater perspectives, suggesting therapists’ ratings may be influenced by their knowledge of clients’ pre-treatment alcohol use. However, research into illicit drug-using populations also has reported a lack of association between
client and therapist alliance and baseline consumption (Belding, et al., 1997; Meier, Donmall, et al., 2005b). As such, the current findings add weight to the argument that alliance is not associated with baseline drinking levels.

There was, however, a trend towards significance with those who drank less regularly (higher PDA) at baseline, having higher alliance scores. This suggests that alliance may be more easily established with regular steady state drinkers, than for binge drinkers.

In the current study baseline motivation was not significantly associated with alliance, although a trend towards significance was evidenced (refer section 5.4, Table 6). Previous research, to the contrary, had consistently reported that baseline motivation variables were associated with alliance (Connors, et al., 2000; Meier, Donmall, et al., 2005b). In their major investigation of treatment for alcohol dependence (Project MATCH), Connors et al. (2000) reported that baseline motivation was the biggest predictor of client and therapist ratings of alliance. Meier et al. (2005b) also reported that, with illicit drug users, motivation-related variables, including treatment readiness, external pressure to attend treatment and desire for help, were predictive of alliance (Meier, Donmall, et al., 2005b).

Although motivation and alliance were found not to be significantly associated in the current study there was a trend towards significance, with the direction of this trend consistent with previous research. Motivation in the present study was measured differently from research which had reported significant associations. It is possible that the different measures may have tapped into slightly different aspects of motivation and that this may account for the divergent findings. Given the trend in the current research, together with findings from other larger studies, it remains likely that motivation is related to alliance.

6.1.3 Hypothesis three: Diagnostic variables

Hypothesis three stated: Clients’ baseline diagnostic profile will not be associated with alliance.

In this study age of onset of alcohol dependence was significantly associated with therapist alliance. However this association was rendered nonsignificant once a client’s current age was controlled for.
A history of, or current, anxiety or mood disorder was not associated with alliance. Previous research has found a significant relationship between levels of depression and alliance (Connors, et al., 2000) and psychological problems and alliance (Meier, Donmall, et al., 2005b). As the current study examined diagnostic status rather than the broader range of symptom levels, findings are not necessarily inconsistent with prior research. Diagnostic categories may not be a very sensitive measure of psychiatric difficulty. As such, the relationship with alliance may only be evident when symptom levels are assessed on a continuum which includes sub-syndromal levels, as was the case with previous research where this relationship was found. Further investigation, including measures that capture the range of symptom level, will add weight to these conclusions.

6.2 Alliance-outcome

6.2.1 Hypothesis four: Alliance and drinking outcomes

Hypothesis four stated: Therapist-rated alliance will be positively associated with drinking outcomes at end of treatment and at follow-up.

The limited number of significant associations between alliance and change in drinking-related variables were of moderate strength. This pattern of findings appears in step with meta-analysis, which has reported a smaller effect size in the subset of studies concerned with substance-using populations, compared to those with other treatment populations (Horvath, et al., 2011).

The current study assessed drinking outcome in a number of ways (PDA, DDD, LDQ, APQ and UHD). The selection of these outcome measures served two functions; firstly, they were able to illuminate changes as they related to different aspects of drinking; and secondly, their selection meant that findings were comparable to other key studies in this field (e.g. Project MATCH and UKATT). While an increase in PDA over time was linked to greater alliance, change in DDD was not associated with alliance. These findings, in association with the trend towards alliance being more easily established with regular steady state drinkers than for binge drinkers (see section 6.1.2), suggest that the development and role of alliance in influencing drinking outcomes may be associated with alcohol typology (e.g. Cloninger, Sigvardsson, & Bohman, 1996). This suggests that future research should consider client drinking profile in their investigations.
Alliance was significantly related to a change in alcohol problems, but not to a change in the severity of dependency status. This may suggest that the quality of alliance is linked to a client’s strengthened capacity to deal with associated problems irrespective of their change in dependency. Or it could be because the APQ score was found to be higher for binge drinkers, while LDQ score may not be correlated with drinking in the same way. This suggests again that the investigation of the role of client drinking profile is warranted.

Individuals with substance use disorders frequently experience a complex myriad of problems. A change in a client’s score on the APQ is important in signalling positive change in their lives and in those of concerned others. These positive changes in associated problem areas may lead indirectly to improved drinking outcomes. In addition changes in these related areas may be more important to the client in improving their quality of life than are changes in drinking. Thus, understanding the role alliance has in improving other problem areas is worthy of further investigation, particularly in association with research concerned with models of change from the client’s perspective such as that proposed by Orford et al. (2006).

6.2.2 Hypothesis five: Controlling for early symptom change

_Hypothesis five stated: Therapist-rated alliance will not be associated with drinking outcomes when early treatment response is controlled for._

Few studies investigating the association between alliance and outcome have controlled for early treatment response. In the current study whether or not alliance remained a useful predictor of outcome once early symptom change was controlled for produced mixed findings. Alliance was marginally correlated with change in PDA between baseline and six weeks. However, the trend between alliance and change in PDA between baseline and six month follow-up no longer remained once early change in drinking was controlled. This finding is consistent with previous research which had found that alliance did not predict drug use outcomes beyond those predicted by earlier changes in drug use levels during treatment (Belding, et al., 1997).

In contrast, controlling for early change in DDD increased the strength in the relationship between alliance and DDD at six months so that it became marginally significant. Further mixed findings were observed in so far as the association between early changes in alcohol-related problems remained when controlling for early change in DDD, but not PDA.
In the current study most changes in drinking occurred in the early stage of treatment (between baseline and the six week timepoint), with little change after this first timepoint. Indeed there was a slight reversal in positive change, on average, in terms of drinking intensity between six weeks and six months. With this trajectory of early change then stable maintenance, it is unsurprising that the relationship between alliance and outcome at six months is rendered nonsignificant once early change is controlled for. It is surprising, then, that this association remained or was strengthened when early change in DDD was controlled for.

These findings raise the question: Does the trajectory of change in drinking influence whether or not alliance acts as a marker or predictor of change with this population. The subsequent TEAM research may assist in answering this question by determining if this pattern of findings is replicated in a substance-using (and depressed) population, including differences found across outcome measures, e.g. PDA compared with DDD. Also, in so far as the TEAM treatment is not designed as a brief intervention and is of longer duration, it may elucidate whether the pattern of findings in the current study is related to BTP design factors. Again, the robustness of any future findings will be strengthened by investigating alliance with a psychometrically verified measure.

6.2.3 Hypothesis six: Attendance

_Hypothesis six stated: Therapist-rated alliance will be positively associated with treatment attendance._

Even though there was little variability in attendance, alliance was rated significantly higher if clients attended all four treatment sessions (refer section 5.5). This finding is consistent with Meier et al.’s (2005a) review of the alliance-outcome relationship in substance use research, which concluded that alliance was a consistent predictor of engagement, as measured by attendance and retention (Meier, Barrowclough, et al., 2005a). More recent findings challenge this conclusion. Dundon et al. (2008) reported a significant relationship between alliance and attendance in one out of three treatment conditions (the Doctor-only condition but not the BRENDA or CBT conditions). The authors signalled caution with regard to the Doctor-only condition because there was only one clinician in this condition, and so concluded that findings did not support a relationship between alliance and attendance (Dundon, et al., 2008).
Nonetheless, the current findings that attendance and alliance are significantly related are consistent with Meier et al.’s (2005a) conclusion three years earlier (Meier, Barrowclough, et al., 2005a). However, the BTP research design limits confidence in stating that this finding supports the role of alliance as a predictor of attendance. In the BTP study therapists’ alliance ratings were conducted after the fourth and last treatment session, thus it is possible their ratings may have been influenced by the client’s commitment to attend all four sessions. In addition, because there were only four therapy sessions in the current study, a caveat should be placed on how applicable this finding is to the alliance-attendance relationship in treatment of longer duration. It is possible that this relationship differs according to treatment length. In that Carroll et al. (1999) reported there was a relationship between alliance and attendance when measured at the second session but not the fifth session, this points to the importance of examining this relationship in association with treatment length. This is particularly so given alliance does not always develop in a linear fashion (Hersoug, et al., 2010; Kivlighan Jr. & Shaughnessy, 2000).

6.2.4 Hypothesis seven: Treatment modality

_Hypothesis seven stated: Alliance will be rated significantly higher for the MET group compared to the NDRL group._

The current study found that alliance ratings did not differ between MET and NDRL treatment conditions. Despite consensus that alliance is a pantheoretical concept, some deliberation has occurred as to whether alliance is rated higher in differing treatment models. AOD research has reported that alliance ratings differ depending on the modality of treatment delivered, with alliance rated higher in CBT compared with less psychologically-active treatments (Carroll, Nich, & Rounsaville, 1997; Dundon, et al., 2008; Öjehagen, et al., 1997). This has been found in research employing manualised treatment protocols (Carroll, et al., 1997; Dundon, et al., 2008) and in research with nonmanualised treatment (Öjehagen, et al., 1997). The current study did not include a CBT condition, but compared the manualised treatments of MET and NRDL. Based on the premise that alliance is higher in more psychologically-active treatments, it was expected that alliance would be rated higher in the MET condition as NDRL was considerably less active than MET with therapists interventions restricted to nondirective reflective listening with minimum responses. However, the current findings did not support this hypothesis. They are more consistent with recent research which has reported no difference in alliance between MET and CAU (counselling as usual) (Crits-
Christoph, et al., 2009), treatment regimes relatively similar to those in the current investigation. Further examination by Crits-Christoph and colleagues found that alliance was related to level of motivational techniques, regardless of the treatment condition (Crits-Christoph, et al., 2009). As motivational techniques were not measured in the current investigation, it is not possible to know if there were differences in levels of MET techniques within the two treatment conditions and how this related to alliance. One might reasonably expect higher levels of motivational techniques in the MET condition compared to the NDRL, but this may not necessarily be the case. This current finding adds support to alliance being a nonspecific treatment factor involved in change rather than it being linked with a specific technique or modality, or the level of therapeutic activity.

The lack of differential findings between MET and other treatment models may be related to developments in understanding the motivational interviewing approach, in which greater emphasis is now placed on the underlying core conditions or “spirit” that create an appropriate therapeutic climate in which to apply the specific techniques (Miller & Rollnick, 2013). As such, it may be that the skills used to create a positive therapeutic climate, which are common across different treatment conditions, are more important to alliance, rather than specific techniques. In Crits-Christoph and colleagues study (2009), it is possible that those therapists who demonstrated high levels of MET techniques were also high in the core conditions that promote alliance. The present study also found that alliance did not differ between treatments, perhaps because these core conditions were similarly present in both treatments.

The question remains as to how underlying common factors relate to higher alliance reported in CBT, as compared to less psychologically-active treatment, particularly as an earlier study by Crits-Christoph and colleagues (1999) found no difference in alliance between CBT, TSF and supportive-expressive psychodynamic treatment conditions (Crits-Christoph, et al., 1999). Possibly NDRL may have more in common with MET than it does with less psychologically-active treatment such as Dundon et al.’s (2008) medication only condition which may have been lacking the aforementioned underlying core conditions. To understand what results in higher alliance it may be more fruitful to examine both commonalities and differences between models as it does not appear to be simply an artefact of the level of psychological-activity.
This line of inquiry is aligned with Raytek et al.’s (1999) findings that alliance is higher in dyads with therapists who deliver technique more competently regardless of modality. Moreover, it may be competence that is being captured when distinguishing the active treatments and when measuring specific techniques.

Lastly consideration of the reciprocity of alliance and modality is needed. As such, in line with that proposed by Carroll et al. (1997), it may be that a certain quality of alliance is needed for specific interventions to be appropriately implemented (Carroll, et al., 1997) and, as indicated by Raytek et al. (1999), that competence in delivering therapy influences this quality of alliance.

Given the number of models and diversity in approaches between treatment models conceptual questions emerge: what area of competence matters most, is competence a pantheoretical or non-specific treatment factor or does it differ across models, and how is it best measured? Regardless of whether it is a non-specific treatment factor, it may be that the role competence has with alliance differs depending on the model.

6.2.5 **Hypothesis eight: Interaction of treatment modality and the alliance-outcome relationship**

*Hypothesis eight stated: Treatment modality will have a moderating effect on the alliance-outcome relationship.*

In the current study treatment assignment did not meaningfully alter any of the associations between alliance and outcome measures, with no difference in the alliance-outcome relationship in MET compared to the NDRL treatment condition. These findings support research which found no difference in the relationship between alliance and outcome when comparing MET to CAU (Crits-Christoph, et al., 2009). Both treatment models and treatment population in the current study were relatively similar to those of Crits-Christoph et al. (2009).

Other studies that have investigated the influence of treatment modality have reported more mixed findings (Carroll, 2004; Connors, et al., 1997; Dundon, et al., 2008). While these encompass a range of treatment models (BRENDA, CBT, MET, TSF, MBT, Clinical Management) and differences have been reported between treatment modalities, the body of
evidence does not yet sufficiently favour any one particular model as being associated with a stronger alliance-outcome relationship. As with understanding the relationship between treatment modality and alliance, the question of how treatment modality influences the alliance-outcome association remains unanswered and is a line of inquiry that may yield valuable findings.

### 6.2.6 Strengths and limitations of the BTP study

The current BTP study contributed to alliance research by its focus on an alcohol dependent treatment population, a cohort that has received comparatively limited attention. Features of the BTP research design added strengths to the value of these findings. Firstly, the current study was more inclusive of other pathologies than research in general psychotherapy (Stirman, et al., 2005). Inclusion criteria aimed to ensure the investigation occurred with a typical clinical sample of those with mild to moderate alcohol dependence in order to enhance generalizability of findings to these treatment populations elsewhere. A high follow-up rate of 87% was achieved. This rate exceeds the minimum follow-up rate of 70-80% recommended as necessary to eliminate follow-up bias (Bale, et al., 1984).

The drinking-related outcome measures employed in the BTP, the same as those employed in major investigations in the AOD field, were well regarded. The current study also provided an opportunity to examine less studied associated drinking variables.

As the broader BTP study was a comparative study of different models of brief intervention, the current investigation was able to include an examination of treatment modality in relation both to alliance and the alliance-outcome relationship. The unique focus on brief intervention also made a useful contribution to this area of literature.

Furthermore, brief interventions are increasingly being employed as a model for treatment delivery in NZ as well as in other countries (Raistrick, et al., 2006). Thus an exploration of the role of alliance in a brief treatment programme was considered important for its potential to contribute knowledge regarding this treatment model both to this substance-using population, as well as to other treatment populations for whom brief interventions are also delivered.

The major focus of the BTP study, from which these data were drawn, was not an investigation of therapeutic alliance. The original design did not include a standardised
measure of alliance which, for reasons outlined in Chapter 2, would have been preferred. Notwithstanding this limitation, the opportunity was taken to use this data set as the basis of an exploratory investigation into the alliance-outcome relationship. A measure of alliance was derived from a brief four-item questionnaire completed by therapists after the fourth therapy session. Since this was not a standardised instrument or one that had been used in previous research, psychometric properties of this alliance measure were examined and presented. Whilst factor analysis identified one robust factor, named therapeutic alliance mean score, the questionnaire is not a standardised measure. It is possible that what was measured was not therapeutic alliance and results may not effectively or accurately assess alliance, it nevertheless has face validity in this regard.

It was only possible to analyse alliance from one perspective, that of the therapist. Early research generally reported that clients’ and observers’ ratings of the working alliance were more strongly associated with outcomes than were therapists’ ratings (Horvath & Symonds, 1991). However, it has been stated more recently that while clients’ ratings have been reported to be more consistent and stable over time, compared to those of therapists, therapists’ ratings, although slightly less reliable, are still within the acceptable range (Martin, et al., 2000). How this applies to the AOD field remains unclear as Fenton et al. (2001) have reported a significant relationship for observer ratings but not with client or therapist ratings (Cecero, et al., 2001). The current findings add weight to the utility of therapist ratings as a significant predictor.

Longitudinal research allows greater insight into the time order of variables, so causal inferences are more able to be made (Bryman, 2004). Having several points in time at which clients need to be interviewed increased the likelihood of missing data as some clients were hard to locate or unavailable. This further reduced the strength of the findings. It was also unfortunate that dependence and alcohol-related problems were not measured at six weeks. The measure of alliance was only once and, as discussed earlier, literature increasingly indicates it is preferable to assess alliance at more than one timepoint. As the current study was only able to report on this relationship at one specific timepoint, whether and how alliance was associated with outcome at other timepoints during and following treatment remains unknown.

In this earlier discussion it was also stated that if alliance is to be measured at a single timepoint it is preferable that it be early (Crits-Christoph, et al., 2011). In the current study
alliance was assessed at the fourth session with the therapist, six weeks after baseline. While this timepoint is consistent with the timeframe used by most studies commenting on early alliance, the current study investigated a brief treatment programme, and so the fourth session was also the final treatment session.

Participants were in the mild to moderate range of alcohol dependence and so findings concern a treatment population with a lesser-studied level of alcohol dependence (mild dependence). As a consequence findings may not apply to those with more severe dependence.

Notwithstanding limitations, the current study was a worthwhile exploratory endeavour contributing to research by investigating the alliance-outcome relationship in a treatment population that has had limited attention. It was also of benefit in identifying potentially profitable avenues for future research, including guiding the subsequent TEAM investigation.

Wherever possible design limitations identified in the BTP study and recommendations from extant literature were addressed in the design of the TEAM investigations. This included the employment of a standardised measure to enhance the comparability of findings with other studies, assessment of alliance from more than one rater’s perspective (therapist and client) and timing of the assessment at an optimal point in treatment. Greater detail regarding the rationale for these design enhancements are provided in the TEAM method chapter.

6.2.7 Overall summary and conclusions

The present investigation into the relationship between alliance and drinking-related outcomes produced mixed findings. Client’s age, education and age of onset of alcohol dependence were the only pre-treatment variables found to be associated with alliance. The mixed array of findings in this area, including those observed in the current study, justify further examination of the association between pre-treatment client characteristics and clients and therapists alliance.

With regard to outcomes, the BTP study found that alliance was significantly associated with early change in drinking frequency and with the amount of alcohol-related problems. In this study, alliance (measured contemporaneously with outcome following the fourth therapy session) was higher for those who drank less often and who had fewer alcohol-related
problems. Alliance was also positively associated with the number of sessions attended. In contrast, alliance was *not* associated with drinking intensity or level of dependence. These mixed findings reinforce the difficulty of making definitive conclusions about alliance-outcome relationship in substance-using populations. They are also consistent with an earlier conclusion that alliance is a more robust predictor of engagement and retention than it is of treatment outcome (Meier, Barrowclough, et al., 2005a). Lastly, treatment modality was not associated with alliance or with the alliance-outcome relationship.
CHAPTER SEVEN: TEAM STUDY METHODS

7.1 Introduction

The TEAM study primarily had an empirical methodology using a quantitative method, but also incorporated a minor qualitative component. Despite both methodologies being included, the extent of the qualitative component was not considered sufficient to warrant the TEAM investigation being considered mixed method. Rather it was an empirical quantitative methodology, with a supplemental qualitative nested-variant piece of research also included (Creswell & Plano Clark, 2011). This chapter will present the methodology for the TEAM investigations. Firstly, the TEAM hypotheses for the quantitative research will be presented, followed by a description of the method. Then, a brief overview of the underlying paradigm for the qualitative research component is provided followed by a description of the method for this component of the TEAM research.

7.2 TEAM Hypotheses

The aim of the TEAM investigation was to investigate alliance and the alliance-outcome relationship in a treatment population that has thus far received comparatively little attention; those people with co-existing alcohol dependence and depression. Research pertaining to substance-using populations indicates that this relationship may differ in this treatment population compared to general psychotherapy research. Hypotheses for the current investigation were determined by those areas identified in the literature review as warranting further investigation, assignalled by findings from the BTP investigation, and as could be achieved within the confines of the broader TEAM investigation.

7.2.1 Alliance

1. Hypothesis one: Clients will rate alliance higher than therapists.
2. Hypothesis two: Clients’ demographic characteristics will not be associated with alliance.
3. Hypothesis three: Clients’ baseline symptom level and diagnostic features will not be associated with alliance.
4. Hypothesis four: Clients’ psychosocial variables will be associated with alliance.
7.2.2 **Alliance-outcome relationship**

5. Hypothesis five: There will be a significant positive relationship between alliance and drinking outcomes.
6. Hypothesis six: There will be a significant positive relationship between alliance and mood outcomes.
7. Hypothesis seven: Higher alliance measured early in treatment will be associated with better attendance and retention.
8. Hypothesis eight: Higher alliance will be associated with better medication adherence.
9. Hypothesis nine: Alliance will not be significantly associated with outcome once early symptom change is controlled for.
10. Hypothesis ten: Motivation and self-efficacy will each have a significant moderating effect on the alliance-outcome relationship.
11. Hypothesis eleven: Alliance will not predict outcome once other variables are accounted for.

7.3 **TEAM Study**

The TEAM study was a pharmacotherapy trial designed to evaluate the short-term effectiveness of citalopram compared with placebo, when combined with naltrexone and standard clinical case management, for the treatment of alcohol dependent clients with co-existing depression. It was conducted in New Zealand. Citalopram was selected as the antidepressant as it is well tolerated with a favourable adverse effect profile particularly for a combined medication trial (Bezchlibnyk-Butler, Aleksic, & Kennedy, 2000; Parker & Brown, 2000). Naltrexone, an opioid receptor antagonist, was selected as it has been found to be effective in the treatment of alcohol dependence with improved outcomes in abstention rates, number of drinking days, relapse and severity of alcohol-related problems (O’Malley et al., 1992). When the study was conceived, effective antidepressant medications had been available for a long time, however, other than disulfiram, effective anti-craving medications (antidipsotropics), which assist with relapse prevention in alcohol dependence, had only recently been made available in New Zealand².

² Acamprosate is not available in NZ.
The research design was stratified (gender, primary versus secondary depression with 1:1 randomization), and was a double-blind placebo-controlled parallel group study. At the time the TEAM study was designed in 2006, there had been no published randomized controlled trials investigating the combinations of these medications in people with both these problems. Before starting recruitment, stakeholders including Māori, the indigenous people of NZ, and consumer advisors were consulted on the design and proposed conduct of the trial. The study was registered with the Australian and NZ Clinical Trials Registry in September 2006 (ACTR number ACTRN12606000413527) and had multi-site ethics approval (see Appendix 5).

7.3.1 Setting

The TEAM study was a multi-site trial with clients receiving treatment at one of ten sites throughout NZ. At nine of these sites treatment was delivered within local DHB CADS. At the tenth site treatment was delivered within a DHB Clinical Research Unit based in the University of Otago’s Department of Psychological Medicine. All services operate as government funded outpatient services, treating clients from 17 years of age up to and not normally exceeding 65 years of age. The provision of treatment for clients with co-existing disorders is a core component of service delivery by the CADS (Ministry of Health, 2010). The service is guided by the National Drug Policy which is based on the principle of harm minimisation as a means to improve social, economic and health outcomes for the individual, the community and the population at large (Ministerial Committee on Drug Policy, 2007). This overarching policy means that for people whose alcohol consumption is problematic, due to either quantity consumed or a binge drinking pattern, abstinence may be recommended and encouraged but provided within a harm reduction framework. Thus treatment is also provided if a person wishes to aim for moderation. While this policy provides a framework for service delivery, in practice it is likely to vary both between and within services.

The ten clinical sites participating in the TEAM study comprised four large urban areas with populations greater than 100,000, although there was substantial variance in their size. As of 2006 the population of areas serviced were: Auckland (1,208,094), Hamilton (184,908), Christchurch (two sites) (360,768) and Dunedin (110,997). There were two smaller urban areas with populations under 100,000, Whangarei (49,080) and Nelson (56,367) and three rural or provincial areas: Bay of Islands/Far North District (56,500), rural Waikato (59,000) and Blenheim (28,527) (Statistics New Zealand, 2010).
7.3.2 Clients

7.3.2.1 Recruitment

Recruitment occurred from 2007 to 2011 through a variety of sources, including alcohol treatment services and GPs, but primarily from the community through using radio and print advertising. A research co-ordinator screened referrals via a centralised telephone intake system. Routine client referrals were also screened directly by therapists at their respective treatment site where possible.

7.3.2.2 Inclusion/exclusion criteria

The intent of both inclusion and exclusion criteria was to define a typical clinical sample of clients with co-existing alcohol dependence and major depression, for whom the use of medications would therefore be considered an appropriate addition to clinical case management (CCM) on an outpatient basis (Adamson, et al., 2006).

As such, clients were eligible for the study if they met DSM-IV (American Psychiatric Association., 1994) criteria for alcohol dependence as the primary substance use disorder and also met the DSM-IV criteria for major depression. They were also required to have a MADRS score of 20+ at presentation, to be aged between 17 and 65 years, and to be able and willing to give informed consent for the assessment and treatment.

Exclusion criteria were related to concerns about safety and unsuitability for outpatient treatment, mental or physical health complications, and caution about the possible medication regime they would receive in treatment. On this basis clients were excluded from the study if they had a history of daily or near daily intravenous drug use for more than two weeks, or had used any opioid drugs in the previous four weeks, a history of psychosis including psychotic delirium complicating alcohol or other drug withdrawal, a clear history of mania, a significant current risk of suicide or homicidality or if they had severe psychiatric symptoms for which hospitalization had been seriously considered. Further exclusion criteria were: history of alcoholic liver disease as evidenced by elevated levels of AST, ALT or a GGT three times the upper level of the normal range or elevated bilirubin level. Also if there was evidence of any significant cerebral, renal, thyroid or cardiac disease. If elevated levels were the only exclusion criteria clients were offered support to assist them in reducing their drinking to levels that indicated naltrexone was safe to prescribe, thereby making it possible for them to be included in the study. Clients were also excluded if they had taken disulfirum, calcium
carbimide, naltrexone, antidepressant or mood-stabilising medication over the past four weeks and were unable or unwilling to undergo a medically supervised “washout” period, as this would interfere with the measurement of pre-treatment functioning at baseline. Finally, female clients who were pregnant, breastfeeding or who refused to use a reliable method of birth control were excluded as the safety of naltrexone for pregnant and breastfeeding women had not then been clearly established.

<table>
<thead>
<tr>
<th>Reason for exclusion</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not clinically depressed (either not meeting DSM-IV MDE criteria or MADRS&lt;20)</td>
<td>51</td>
</tr>
<tr>
<td>Not meeting alcohol dependence criteria</td>
<td>46</td>
</tr>
<tr>
<td>Medication-related, mostly taking antidepressant medication and unwilling or inappropriate to undergo a medically supervised “washout” procedure</td>
<td>66</td>
</tr>
<tr>
<td>Bipolar disorder</td>
<td>17</td>
</tr>
<tr>
<td>Outside age range</td>
<td>11</td>
</tr>
<tr>
<td>Physical health contraindication</td>
<td>10</td>
</tr>
<tr>
<td>Suicidal or homicidal (including severe self-harm)</td>
<td>5</td>
</tr>
<tr>
<td>Taking opioids or history of opioid dependence</td>
<td>9</td>
</tr>
<tr>
<td>Home detention</td>
<td>1</td>
</tr>
<tr>
<td>Unknown or other reasons; screened but specific reason not recorded</td>
<td>21</td>
</tr>
<tr>
<td>Declined to participate</td>
<td>28</td>
</tr>
<tr>
<td>Unable to make contact following screening</td>
<td>60</td>
</tr>
<tr>
<td>Deceased during engagement phase</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>327</strong></td>
</tr>
</tbody>
</table>

Reasons for non-inclusion in the TEAM study following assessment for eligibility are listed in Table 12. Of the 474 assessed, 327 did not meet the criteria. The most common reasons for exclusion were, firstly, that they did not meet the criteria for major depression (n=51) or alcohol dependence (n=46); secondly, due to the medication they were currently taking, mostly antidepressants; and lastly, that they either were unwilling or it was unsuitable for them to undertake a medically supervised “washout” procedure required to satisfy protocols for the measurement of pre-treatment functioning at baseline (n=66). Seventeen people were
excluded as they were diagnosed with bipolar depression. A further 28 declined to participate and two people assessed died during the engagement phase.

Sixty people were not randomized following screening. Whilst they did not explicitly decline, recontacting them following screening was unsuccessful. This resulted in 147 people being randomized to treatment.

### 7.4 Current study

Of the 147 clients who were randomized to treatment, 24 were not included in the current study. Reasons were mostly because important data was missing (n= 17). This included nine clients for whom the therapists had not completed the WAI, four clients for whom the WAI was not completed and four clients whose data was not available on key outcome measures (MADRS or TLFB). In addition, there were three clients who were uncontactable after randomization, two clients who withdrew their consent following randomization and two clients were excluded because they were unblinded during treatment. Thus for the current investigation a sample of 123 clients completed the baseline assessment.

<table>
<thead>
<tr>
<th>Reason for exclusion</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Missing data on WAI</td>
<td>13</td>
</tr>
<tr>
<td>Missing data on outcome measures</td>
<td>4</td>
</tr>
<tr>
<td>Uncontactable after randomization</td>
<td>3</td>
</tr>
<tr>
<td>Withdrew consent after randomization</td>
<td>2</td>
</tr>
<tr>
<td>Unblinded</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>24</strong></td>
</tr>
</tbody>
</table>

Of the 123 clients, 99 completed treatment and ongoing assessment data was completed for most clients. There was some variation in completion of specific outcome measures, this number ranging from 96 to 99, but all attended at least one follow-up appointment (see
section 8.6.6 for further details). However, as analysis was conducted on an intention-to-treat basis, the sample size for the current study was 123.

7.4.1 Therapists

There were 19 therapists involved in the overall TEAM study, of whom 18 were included in the current investigation, ten female and eight male. Ages ranged from 34 to 61 years, with a mean age of 48 years. Most therapists identified their ethnicity as NZ European. One therapist identified as Māori, two White English and one Black English. Years of experience working in the AOD field ranged from 9 to 30. Most therapists had completed postgraduate training. Their professional backgrounds included psychiatry, psychiatric nursing, social work, clinical psychology and counselling. Initially it was intended to examine therapist experience as a predictor variable in response to findings in the literature. However, there were few relatively inexperienced therapists in the present sample so it was decided not to pursue this.

7.4.1.1 Training

Therapists were recruited from participating DHB CADS. All research therapists completed a three-day training course prior to the commencement of client recruitment. Training included study protocols and role-plays of the research interviews, with particular attention to the use of the MADRS and guidance on clinical case management (CCM) (further details on CCM are provided in section 7.4.7.1). Following this training course and further practice, therapists were required to undertake a full mock interview to show they met adequate standards, and further feedback for correction was provided if required.

Fortnightly telephone supervision enabled monitoring of progress in recruitment, assessments and CCM and identification of any difficulties. Two-day refresher training sessions were also provided periodically. These also served as induction training for new therapists entering the study.
7.4.2 Research design

The TEAM study design is outlined in Figure 3. All clients were assessed at baseline. This was followed by the treatment phase which consisted of 12 weeks of pharmacotherapy and 24 weeks of clinical case management. Detailed assessment of mood and drinking occurred at weeks 1, 2, 3 and then three-weekly thereafter during the 24 week treatment phase.

![Figure 3: Research design for the TEAM study](image)

7.4.3 Procedures

Potential clients, who met the inclusion criteria, were referred by the research co-ordinator to a therapist at their local site for baseline assessment using standard protocols. At this time informed consent was obtained, inclusion and exclusion criteria confirmed. Clients were informed that although they would not be paid for participation in the study, they would receive $20 over the course of the study to offset inconvenience costs such as travel. Clients were asked to provide the names, addresses and telephone numbers, wherever possible, of two people who knew them well and who could be contacted if there was difficulty in locating them during the study or for the 12 month follow-up. Only those who agreed to all of these conditions were accepted into the study. Unless consent was refused, clients GPs were consulted about their client’s entry into the trial. This was important; both as a point of contact and for ongoing care following discharge at 24 weeks.
7.4.4 Baseline assessment interview

The baseline assessment interview was conducted by the therapist assigned to the client. During the interview, which was typically broken into two or more separate appointments, a substantial body of information was gathered, mostly by means of the standardised interview and assessment tools. Areas covered included:

Demographic details and treatment history

Diagnostic information

- Structured Clinical Interview which covered mood and substance use disorders, plus additional material on family history of mood and alcohol and the TEAM study expansion of the primary and secondary questions (First, Spitzer, Gibbon, & Williand, 1998)
- Mini International Neuropsychiatric Interview: Sections on Panic Disorder, Agoraphobia, Social Phobia, Obsessive-Compulsive Disorder, Post Traumatic Stress Disorder, Anorexia Nervosa, Bulimia Nervosa, Generalized Anxiety Disorder and Antisocial Personality Disorder (Mood and Substance Use Disorders were excluded) (Sheehan et al., 2000)

Other mood-related measures

- Montgomery and Asberg Depression Rating Scale (Montgomery & Asberg, 1979)
- Symptom Checklist – SCL-90-R (Derogatis, 1994)

Other alcohol-related measures

Past 12 weeks substance use

- Timeline Followback (Sobell & Sobell, 1992)

Alcohol dependence severity

- Leeds Dependence Questionnaire (Raistrick, et al., 1994)

Motivation

- Readiness To Change Questionnaire-Treatment Version (Heather, Luce, Peck, Dunbar, & James, 1999)

Self-efficacy

- Situational Confidence Questionnaire (Annis & Graham, 1988)

Cravings (obsessional thoughts and compulsive behaviours)

- Brief Obsessive Compulsive Drinking Scale (Anton, et al., 1995)
Negative expectancies

- Negative Alcohol Expectancy Questionnaire (McMahon & Jones, 1993)

**Other addiction measures**

Nicotine Dependence

- Fagerstrom Test for Nicotine Dependence (Fagerstrom, Heatherton, & Kozlowski, 1992)

Pathological Gambling

- Eight Gambling Screen (Sullivan, 1999)

**General health functioning**

- 12-Item Short Form Health Survey (Ware, Kosinski, & Keller, 1996)

A number of these measurement instruments were relevant to the current thesis. The scales, as administered in the study, are provided in Appendix 4.

### 7.4.4.1 Structured Clinical Interview

The Structured Clinical Interview (SCID) is designed to assist in the diagnosis of co-existing disorders by avoiding premature focus on a single diagnostic possibility (First, et al., 1998). An adapted version of the SCID-I version 2.0 – Mood and Substance Use Disorders Sections was used to diagnose the substance use disorder and primary or secondary depression. The interview also provided information on criteria met, age of onset, number of depressive episodes and family history of mood and substance use problems. Clients were assumed to have secondary depression unless they clearly met at least one of the following criteria:

- The onset of a first episode of major depression prior to heavy drinking.
- A previous episode of major depression that continued for more than one month into a period of abstinence, or started during a period of abstinence.
- A previous episode of major depression associated with mood symptoms substantially in excess of what would be expected, given the duration or amount of alcohol use at the time.

In any equivocal cases, the therapist consulted the principal investigator. Family history data was also able to be used to make this decision.
7.4.4.2  **Mini-International Neuropsychiatric Interview**

The Mini-International Neuropsychiatric Interview (M.I.N.I.) is a short-structured diagnostic interview compatible with international diagnostic criteria (e.g. ICD and DSM). It was developed to be brief, simple, sensitive to change and able to be used in both clinical and research settings. Research, which has compared the M.I.N.I. with the SCID and Composite International Diagnostic Interview, has reported positive reliability and validity findings for the M.I.N.I (Sheehan, et al., 2000).

7.4.4.3  **Montgomery and Asberg Depression Rating Scale**

The Montgomery and Asberg Depression Rating Scale (MADRS) is a brief ten-item clinician-administered scale designed to be sensitive to change in depressive symptoms (Montgomery & Asberg, 1979). There is a choice of two total scores, Usual and Modified with the latter including hypersomnia and weight gain/appetite increase. The current study used the Modified measure.

The MADRS was selected for the current study due to its reported superiority in the measurement of depression outcomes (Carmody et al., 2006; Mulder, et al., 2003). Studies regarding the psychometric properties of the MADRS show that it is unifactorial, thereby enhancing its sensitivity to change, when compared to multifactorial measures (Carmody, et al., 2006). The MADRS has been reported to have good internal consistency, with Cronbach alpha co-efficients of .90 and .92 (Carmody, et al., 2006), satisfactory interrater reliability (Montgomery & Asberg, 1979) and discriminant validity (Carmody, et al., 2006; Montgomery & Asberg, 1979). It has also been recommended as an outcome measure for clinical trials by research comparing the MADRS to other potential outcome measures (Carmody, et al., 2006; Mulder, et al., 2003). In their study of a moderately depressed clinical population (n=195), Mulder et al. (2003) reported that although both the MADRS and the HRSD (17 item) were significantly associated with the clinician’s impression of improvement, the MADRS was the better predictor. In addition, the MADRS was also found to be more sensitive to change in symptoms over time, than was the HRSD-17 or 27-item scale (Mulder, et al., 2003). Carmody et al. (2006) compared the MADRS with the HRSD 6-item and 17-item scales in two different depressed populations (one group with non-psychotic major depression, n=985, and a second group with highly treatment-resistant non-psychotic depression, n=233). A number of factors from this research led Carmody et al. (2006) to recommend the use of the MADRS. The MADRS was found to be consistently sensitive to...
symptom improvement in both populations; that compared to the HRSD-17 the MADRS items were likely to have increased sensitivity to change, and for clients with moderate depression the MADRS was approximately twice as precise as the HRSD-17 in assessing symptom severity. Other reasons supporting its use were the unifactorial structure of the MADRS, in that all MADRS items had a high and consistent relationship with the concept of depression, and its ease of administration (Carmody, et al., 2006).

### 7.4.4.4 Symptom Checklist-90-R

The Symptom Checklist 90-R (SCL-90-R) is a 90-item self-report inventory that measures current psychological symptom status across nine dimensions: somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation and psychoticism (Derogatis, 1994). On a 5-point Likert scale respondents rate the level to which they had been bothered by stated symptoms during the preceding week. Results can then be interpreted at three levels. At a global level three indices of distress are produced (Global Severity Index, Positive Symptom Distress Index and Positive Symptom Total). At the primary domain level, scores are designed to provide a profile of the nature and intensity of the respondent’s distress across these areas, highlighting specific areas of psychopathology. Thirdly, responses to discrete items provide detailed information on symptom manifestation.

Extensive research by Derogatis (1994) supports the sound psychometric properties of the SCL-90-R. Internal consistency has been demonstrated, with coefficients ranging from .77 to .90. Very good test-retest co-efficients have also been reported (Derogatis, 1994). In terms of validity, Derogatis (1994) reports that each of the nine dimensions has demonstrated good internal structure and acceptable levels of invariance. Comparisons with established multidimensional measures of psychopathology have demonstrated convergent validity. Eight of the nine dimensions on the SCL-90-R demonstrated excellent convergence with related symptoms on the Minnesota Multiphasic Personality Inventory.

Concurrent validity has been demonstrated, with high correlations between the SCL-90-R global scores and Social Adjustment Scale-self report (Weissman, Prusoff, Thompson, Harding, & Meyers, 1978) and between the SCL-90-R depression dimension and the Raskin Depression Screen (Raskin, Schulterbrandt, Reatig & McKeon, 1969), the Center for Epidemiologic Studies Depression Scale and the HRSD (Weissman, Scholomskas, Pottenger, Prusoff & Locke, 1977). Research has also reported on the discriminant validity of the SCL-
90-R depression subscale with it shown to successfully discriminate between major depression and other mood diagnostic categories and between primary and secondary depression (Derogatis, 1994). More recent research adds further support for concurrent validity with the depression dimension being significantly correlated with the Inventory for Depressive-Symptomology-Self-rated and the BDI. Predictive validity of the SCL-90-R has also been shown with the measure accurately screening comorbid psychiatric disorders in a sample of 171 veterans in a substance abuse programme (Benjamin, Mossman, Graves, & Sanders, 2006).

A NZ validation study compared scores from a university student sample with the adolescent normative data (Barker-Collo, 2003). Whilst acceptable internal reliability was reported, the NZ cohort scored consistently higher on most indices. The authors cautioned that this finding may be important when using the SCL-90-R to track changes particularly given that high scores from clinical samples could produce a ceiling effect. Cultural differences may have resulted in the disparity between NZ and US adolescent norms. Whether these cultural factors are relevant in the current sample, which in terms of norms is comparable to the adult outpatient psychiatric population, is not known.

**7.4.4.5 Timeline Followback**

Details of the TLFB (Sobell & Sobell, 1992), including psychometric properties, have been given in the method section for the BTP study in Chapter Four (see section 4.7.1.1). A number of modifications with the TLFB were made for the TEAM investigation compared to the BTP study. Alcohol and other drug use during the 12 weeks prior to initial assessment was obtained. Firstly, details of all drug use, including alcohol, during the previous three weeks, followed by an estimate of the prior nine weeks. This included the number of days abstinent, drinks per drinking day, as well as the number of binge drinking days. A binge drinking day was defined as more than eight standard drinks for men and more than six for women on a single day. This definition was two higher than the NZ responsible drinking guidelines (MacEwan, 1995) to ensure it represented an unequivocal heavy drinking episode.

**7.4.4.6 Leeds Dependence Questionnaire**

Details on the psychometric properties of the LDQ, including those with a NZ population, were provided in the method section for the BTP study in Chapter Four (refer section 4.7.1.2).
7.4.4.7 Readiness to Change Questionnaire-Treatment Version

The Readiness to Change Questionnaire-Treatment Version (RCQ-TV) measures the stage of change a person resides at in terms of resolving their addiction issue. It is designed for clients seeking or undergoing treatment, as opposed to the general version (RCQ) which was developed on a population of excessive drinkers not necessarily seeking treatment. The RCQ-TV was designed in response to reported low reliabilities and poor predictive validity in an alcohol problems treatment sample (Heather, et al., 1999). Further details of the original RCQ and the stages of change model are provided in Chapter Four (refer section 4.7.1.4).

The RCQ-TV is a quick and easy tool designed for self-administration and provides subscale scores for stages most likely for those in treatment, i.e. pre-contemplation (P), contemplation (C) and action (A). Subjects are assigned to the stage in which they have the highest score, in the case of a tie the stage furthest along the continuum is selected. Scoring enables a client to be assigned to a stage, or a continuous score can be calculated.

Analysis in the current study is based on the 12-item revised edition (Heather & Hönekopp, 2008). This edition was developed following analysis of RCQ-TV scores in the UKATT investigation (n=742 at baseline, 689 at 3 month and 617 at 12 months follow-up). Heather and Hönekopp (2008) reported that the shorter version had improved psychometric properties compared to the earlier developed 15-item version. Removing one item from each scale had resulted in improved goodness of fit indices. Internal consistency remained as high as the 15-item even though the scale was shorter, with Cronbach alpha co-efficients for the subscales ranging from .66 to .88 (Heather & Hönekopp, 2008). Construct validity of the shortened scale was demonstrated as the authors reported that significant relationships between subscale scores and drinking outcomes (PDA, DDD & APQ scores) were similar to those reported with the 15-item version. Furthermore, significantly higher correlations with the Negative Alcohol Expectancy Questionnaire were reported than had been found for the 15-item version. Predictive validity of the 12-item edition was evidenced through highly significant relationships between RCQ-TV-12 dichotomously ranked stage at 3 and 12 months and treatment outcome. The earlier 15-item RCQ-TV reported good reliability with test-retest coefficients ranging from .78 to .86 (Heather and Peck, 1999).
7.4.4.8 Situational Confidence Questionnaire

The Situational Confidence Questionnaire (SCQ) is based on Banduras concept of self-efficacy as a cognitive mediator in the maintenance of change (Annis & Graham, 1988). This concept relates to an individual’s expectation of mastery or success in engaging in coping behaviours, and their belief in their success when faced with difficult situations (Miller, Ross, Emmerson, & Toyt, 1989). The questionnaire is a 39-item self-report inventory whereby an individual rates on a 6-point scale how confident they are that they would be able to resist heavy drinking in a range of drinking situations (Annis & Graham, 1988). Confidence is rated in eight areas: pleasant and unpleasant emotions, physical discomfort, testing control, urges and temptations, conflict with others, social pressure to drink, and pleasant time with others. A separate confidence subscale score is produced for each area and the overall SCQ score calculated by averaging scores across all eight areas. Subscale scores are able to be used to produce client profiles of their confidence in resisting drinking across the different situations.

The SCQ has been demonstrated to be sensitive to change and to have high internal reliability, with Cronbach alpha co-efficients for the subscales ranging from .81 to .97. It is unifactorial, assessing the general trait of confidence in ability to control drinking (Annis & Graham, 1988). Discriminant validity has been reported, with the SCQ successfully distinguishing between “long-term sober” (abstinent for 12 months, n=25) versus “short-term sober” (recently entered inpatient treatment, n=46) groups (Miller, et al., 1989). This research reported that the long-term sober group had significantly higher overall efficacy scores compared with the short-term sober group. This was also the case for seven of the eight subscales, the exception being “Testing Personal Control”. The authors also stated that construct and predictive validity were demonstrated as scores on the SCQ were able to correctly predict the a priori status of 92% of long-term sober and 65% of the short-term sober subjects (Miller, et al., 1989). The predictive ability is further supported by a recent systematic review which reported that high self-efficacy was the most consistent predictor of improved alcohol treatment outcomes (Adamson, et al., 2009).

7.4.5 Laboratory blood tests

Laboratory blood tests were arranged and included baseline full blood count and liver function tests (AST, ALT, GGT and bilirubin levels). In addition, for females in the childbearing age-range and able to become pregnant, a beta HCG and a pregnancy test were obtained at the outset of pharmacotherapy treatment and then repeated at six weeks. Blood
samples were taken to ensure clients were medically suitable for inclusion, i.e. that naltrexone did not present any medical risks. Blood samples were also taken at week nine and all samples were stored for later pharmacogenomic and pharmacokinetic analysis.

Finally, following the completion of these standardised questionnaires, the therapist arranged the first review session with a Senior Medical Officer (SMO)\(^3\) who oversaw the CCM.

### 7.4.6 Randomization/treatment assignment

A computer-generated randomization list was produced for each of the four strata, randomly allocating clients to the two treatments in a 1:1 ratio within permuted blocks of size 30 and stratified for gender and primary/secondary depression. An administrator matched clients to treatment assignment. Assignment details were kept on a secure database, unavailable to anyone else in the study.

### 7.4.7 Treatment

#### 7.4.7.1 Clinical case management

The overall goals of the CCM within the study were to engage clients, promote their active participation in the trial and to retain them for the 24 weeks. Key strategies included:

- An individualised approach
- Enhancing motivation for change
- Active helping
- Affirming clients’ strengths and resources
- Involvement of significant other (includes family) and whanau\(^4\)
- Promoting medication adherence through active monitoring and providing clients with strategies for taking their medications
- Providing education about depression and antidepressant therapy and monitoring of depression symptoms
- Providing education about alcohol dependence and naltrexone and monitoring of substance use
- Promoting involvement in self-help/mutual help groups

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\(^3\) In the current study all SMO’s were either a psychiatrist or addiction medicine specialist.

\(^4\) “Māori word commonly used to refer to extended family, family group, a familiar term of address to a number of people. In the modern context the term is sometimes used to include friends who may not have any kinship ties to other members” (ref: [http://www.Maoridictionary.co.nz](http://www.Maoridictionary.co.nz))
It was emphasised to the therapists that the TEAM study was a *pharmacotherapy* rather than a *psychotherapy* trial. It was therefore expected that the therapist strongly support the client’s ideas and strategies for attempting to attain and maintain abstinence and reduce depressive symptoms, including the taking of medications. It was also emphasised that the therapist encourage significant others and whanau to provide support in ways that were helpful to the client. However, it was also acknowledged that there could be times when the therapist needed to provide additional helpful strategies, for example if a client was taking medications and continuing to have particular difficulty in managing urges or cravings, in managing negative emotions without drinking or in the event of a crisis. As the CCM was the vehicle for the pharmacotherapy trial, it was guided rather than manualised. Guidelines were derived from the US COMBINE Study Treatment Manual (Miller, 2004; Pettinati et al., 2004) and the NZ Motivational Enhancement Therapy Treatment Manual (Sellman & Sullivan, 1996) utilised in BTP study. Therapists were also expected to provide interventions as the situation deemed, in accordance with services policies and risk management protocols.

There was a standard number of CCM sessions, each approximately 50 minutes in duration, with some flexibility so as to be responsive to the needs of the client and to promote engagement and retention in the trial. As a guide, the minimum number of scheduled sessions following baseline was six, a weekly session for the first three weeks of pharmacotherapy and then one every three weeks thereafter for the 12 week duration of treatment. This was based on a general expectation of clients attending on weeks in accordance with data collection points. Extra CCM sessions and telephone contact were provided if required or requested.

### 7.4.7.2 Pharmacotherapy

Pharmacotherapy was commenced at the beginning of the 24 weeks CCM period. Clients were randomized to receiving 12 weeks of daily treatment of either citalopram or placebo, in addition to naltrexone.

Medication was prescribed for 12 weeks only and medications were reduced or ceased according to withdrawal protocol. The subsequent 12 weeks of continuing CCM ensured active monitoring of the potential relapse both for alcohol dependence and depression.

Clients could be unblinded and treatment initiated/reinstated if clinically significant symptomatology became evident and it was felt that maintaining the treatment protocol was not
in their best interest. Clients who either became suicidal in the first 12 weeks or experienced continuing significant depressive symptoms were reviewed by the SMO, and medication increase and unblinding considered. Relevant further interventions could be initiated if required, in which case the client would be considered to have exited the clinical trial.

Subsequent to a satisfactory review of the baseline assessment by the SMO and the therapist, medications were initiated and increased after one week, i.e. 20mg (one Tablet) citalopram/placebo to 40mgs/two Tablets and 25mg naltrexone to 50mg. Clients were encouraged to take the medications in the morning with food. Should a client experience significant side effects then the doses were increased at a rate tolerable to the individual client. Prior to commencing medications and as part of the informed consent process, each client was informed of the effect of naltrexone in combination with opioid medication in case of the need for pain relief. Clients were also provided with alert cards to carry with them. These provided details of the trial medications and the name and contact details of the prescribing SMO. Each client received a supply of the citalopram/placebo at the baseline assessment and at the three, six and nine week appointment with their therapist, while naltrexone was obtained from a pharmacy with a written prescription from the SMO.

The medication supply given at each of the three weekly appointments included four extra days dosing, to ensure continuity of treatment in the event of the client missing an appointment. The SMO conducted a review following the six week appointment if required, or earlier or later, if requested by the therapist. In the event of a crisis or emergency situation the code could be broken (unblinding) by the study administrator and the relevant actions taken as required.

Medication adherence was assessed and promoted by the therapist in accordance with the CCM guidelines. Medication adherence was checked by the therapist and clients were encouraged to bring unused pills to sessions where a pill count could be conducted prior to the next three weekly supply being given. Otherwise adherence was recorded by therapists based on clients’ self-reports.

7.4.8 Ongoing assessment information

Baseline assessment measures were repeated at 12 and 24 weeks by the therapist. At each of the three weekly treatment sessions further data was gathered to monitor the interaction between drinking and depressive symptoms. Data gathered included repeated administration
of the MADRS and TLFB, records of medication adherence, medication side effects, attendance at self-help meetings and significant others’ participation in the sessions.

7.4.9 Measurement of therapeutic alliance

7.4.9.1 Working Alliance Inventory

The primary measure of alliance was the 36-item Working Alliance Inventory (WAI) which yields one total and three subscale scores (bond, task and goal) (Horvath & Greenberg, 1989). The therapist completed the therapist version as a self-report measure and the client version administered by an independent member of the research team via telephone (primarily the current author). Both were completed following the three-weekly CCM session. Further details of the WAI, including psychometric properties, have been outlined above (see section 2.1.1).

The WAI was selected so as to enhance consistency with major studies e.g. Project MATCH, and for its enhanced comparability since it is derived from a pantheoretical conceptualisation of alliance rather than one linked to a specific therapeutic model (Bordin, 1979; Castonguay, et al., 2006). The three week timepoint for completion of the WAI was chosen as that most consistent with other major research studies, e.g. Project MATCH and UKATT. As a single measure, assessment at three weeks is in line with findings that such earlier measures mean the alliance-outcome relationship is less likely to be confounded by the effect of prior symptom improvement. It is also more relevant clinically to the establishment of the therapeutic relationship (see section 2.5.3) (Crits-Christoph, et al., 2011).

Both short and longer versions of the WAI are available. The advantage of the longer 36-item version is its ability to capture and yield more information on specific components via the respective subscales.

Further advantages for the selection of the WAI as a measure of alliance in the current study are its wide use in the substance use field and that its psychometric properties have been reported on in this treatment population. In addition, it was developed for the early phase of treatment and relatively little training is needed for its administration.
7.4.10 Client characteristics examined for their association with alliance

The selection of baseline variables to be examined for their association with alliance was based on extant research findings and the BTP findings. Categories included demographic, diagnostic, treatment history, drinking-related and mood variables as listed below.

7.4.10.1 Demographic characteristics

- Age
- Gender
- Education or training
- Marital status
- Current employment
- Of Māori descent
- Living circumstances

Education was measured as the number of years in full-time study, or equivalent in the case of part-time study. Ethnicity was dichotomised (of Māori descent or not) due to the low number of other ethnic groups clients identified.

7.4.10.2 Diagnostic variables

- Age of onset of alcohol dependence
- Age of onset of depression
- Primary versus Secondary Mood disorder

7.4.10.3 Treatment history variables

- Ever prescribed antidepressants
- Previous treatment for depression
- Previous treatment for alcohol and other drug issues

7.4.10.4 Drinking-related variables

- PDA (refer section 4.9)
• DDD (refer section 4.9)
• Percent days heavy drinking (PDHeavy) (detailed below)
• LDQ score
• RCQ-TV score
• SCQ score

7.4.11 Mood variables

• MADRS score
• SCL-90-R – depression subscale score
• Remission status based on the MADRS

7.4.12 Outcome measures

The primary outcome measures for alcohol use were PDA and DDD and for depressive symptoms, the MADRS score. The primary outcome measures for alcohol were selected for the same reasons as in the BTP investigation, and also to attain consistency with the BTP analysis used in this dissertation. To reiterate, reasoning for their preferred use includes consistency with outcome measures used in relevant major studies (Project MATCH Research Group, 1998; UKATT Research Team, 2005), their sensitivity to change and independence from each other (Barbor, et al., 1994), that they are good predictors of outcome (Adamson, et al., 2009) and because they can be employed repeatedly. The MADRS was chosen for its perceived superiority in the measurement of depression outcomes as outlined earlier (Carmody, et al., 2006; Mulder, et al., 2003). (For further details on PDA and DDD as outcome measures refer section 4.9).

Secondary drinking-related outcome measures included a drinking frequency-intensity composite based on sessional drinking data, i.e. percentage of heavy drinking days (PDHeavy), measured as eight or more standard drinks for men and six or more for women, and scores on the LDQ. Secondary depression outcome measures were remission of depression, defined as a MADRS score of less than ten (Hawley, Gale, & Sivakumaran, 2002) and change in depressive symptoms as defined by SCL-90-R depression subscale (Derogatis & Savitz, 1999).
7.4.13 Other measures

A number of other treatment related variables were examined in relation to alliance. Motivation was investigated using scores from the RCQ-TV and self-efficacy was examined using scores from the SCQ.

Attendance was based on frequency of session attendance and therefore was a continuous variable. Treatment retention was examined by use of a binary variable determined by attendance at the 12 week end of treatment session.

Medication adherence was also investigated, adherence defined as the number of days medication was taken, out of the total length of time (days) the client was in treatment. This variable was measured by the self-reported number of days medication was taken at weeks 3, 6, 9, and 12 and validated with pill count by the therapist on those occasions when the client brought in the unused portion of their supply.

7.4.14 Data analysis

Statistical analysis of data was conducted using the Statistical Package for the Social Sciences programme, version 20.0. The analysis was carried out on an intention-to-treat basis, so that all clients who completed a baseline questionnaire and attended at least one follow-up appointment were included, even if they subsequently dropped out. To account for missing data due to drop-out the LOCF convention was employed, so that the most recent score was substituted for the missing value, and no change (improvement or deterioration) was assumed from the time of the last measure.

To account for variance in baseline mood and drinking levels change scores were calculated between baseline and three weeks for outcome variables assessed at three weeks (PDA, DDD, PDHeavy and MADRS). Change scores between baseline and 12 weeks were calculated for PDA, DDD, PDHeavy, LDQ, MADRS, SCL-90-R-dep and the SCQ. Change scores were not used with the RCQ-TV as it was thought the wording of some questions meant using continuous scores to calculate change would not accurately reflect variations in readiness to change problem drinking. More specifically, unwillingness to change due to achieved abstinence or reduced drinking could be misconstrued or miscalculated as unwillingness to change problematic drinking.
7.4.14.1 Variable properties

7.4.14.1.1 Tests of normality

All continuous dependent and independent variables for analysis, including change scores, were examined to confirm that they were normally distributed as required for the application of regression, t-tests, and parametric correlations. As distributions departed significantly from normal for several key variables a decision was made to employ non-parametric statistical procedures as more conservative measures of analysis.

7.4.14.1.2 Tests of linearity

For predictor and outcome variables visual examinations using scatterplots and boxplots were conducted to ensure their association was linear. Crosstabulations were used to examine the association between categorical predictor variables and continuous outcome measures.

7.4.14.2 Bivariate analysis

A range of analyses was undertaken to investigate the strength of association between variables. The association between continuous independent and dependent variables were analysed using Spearman’s rho correlations. Where the independent variable was categorical and the dependent continuous, Mann-Whitney U tests were performed. The Wilcoxon signed-rank test was employed to compare therapist and client WAI scores. Binary logistic regression was conducted where the independent variable was continuous and the dependent variable categorical.

For exploratory purposes transformations were also performed where normality assumptions were violated, which in most instances resulted in an acceptable distribution. Parametric tests were used to determine if they substantially changed the findings.

7.4.14.3 Multivariate analysis

Partial correlations were undertaken to control for the effect of early symptom change occurring between baseline and three weeks, on the relationship between alliance and change in outcomes between baseline and 12 weeks. Outcome variables included PDA, DDD, PDHeavy, LDQ, MADRS and SCL-90R-dep. A series of three partial correlations were conducted between alliance and each outcome variable, firstly, controlling for early change in mood, secondly,
early change in drinking and, thirdly, early change in both mood and drinking. In all instances early changes in mood were controlled using the change in MADRS between baseline and three weeks (SCL-90-R-dep was not assessed at three weeks so changes in this outcome measure were not able to be controlled for). With most drinking outcomes, the change in the corresponding drinking-related variable between baseline and three weeks was controlled for. When looking at the effect on the LDQ score and the effect on mood outcomes, changes in PDA and DDD were controlled for, as they were the primary outcome measures.

Analyses of variance were undertaken to determine if there was an interaction effect between alliance and motivation and alliance and self-efficacy on outcomes.

Stepwise multiple regression was undertaken to derive an efficient predictive model of drinking and mood outcomes. Two different regression models were identified which reflected the different pattern of associations between client and therapist-rated alliance. Variables entered into these models, in conjunction with either therapist or client alliance, were selected according to those found to be significantly, or close to significantly, associated (at .10 level) with the respective alliance variable in bivariate analyses. In one instance a variable was also included on the basis that previous research warranted further exploration (SCQ).

### 7.4.14.4 Power analysis

The study was powered to be able to detect a difference in outcome between groups based on treatment assignment. For Pearson’s correlations a moderate correlation ($r = .30$), between variables is considered meaningful. With type I error set at $\alpha = 0.05$ and power set at 80%, the sample of 123 would allow for identification of a correlation between two variables of $r = 0.25$. Based on a sample of 123, t-tests would be able to detect an effect size of 0.25.

### 7.5 Qualitative methodology

As discussed in the introduction to this chapter the qualitative component was a more minor part of this whole study and was nested within the quantitative research design (Creswell & Plano Clark, 2011; Tashakkori & Teddlie, 2010). To contextualise this qualitative component, as it is rarely employed in alliance research, a brief overview of the overarching paradigm and
core features of qualitative research will be provided. This is followed by a description of the purpose of the qualitative component, how it relates to the wider study and then a description of the method used.

Qualitative methodology attempts to understand phenomena from a paradigm that differs from the scientific empirical paradigm which underlies quantitative research (Creswell & Plano Clark, 2011). With its origins in anthropological research the basic tenets of qualitative research are the primacy of subject matter over method, and contextualisation of the whole research process. A holistic approach is taken and a wide angle or deep angle lens is employed to capture the breadth and depth of the phenomena in question. Gathering data from the multiple layers and dimensions of phenomena, including the insider’s subjective view and experience, qualitative research does not attempt to manipulate or interrupt the natural flow of behaviour but study it naturalistically (Johnson & Christensen, 2012). In making sense of phenomena the underlying assumption is that all reality is socially constructed (Guba & Lincoln, 1989). This means that knowledge is constructed through one’s subjective experiences, such as interactions with others and the use of language, rather than through objective observation (Andrews, 2012). The role of the researcher is at the heart of this constructivist approach as they make sense and give meaning through their own subjective interpretation. The method is inductive. Specific observations are used to generate patterns and themes, which in turn are used to develop higher level constructs, then followed by the development of explanatory theories. This inductive approach contrasts sharply with the deductive process of the quantitative scientific empirical paradigm which begins with an existing theory, from which specific hypotheses are devised to confirm or disconfirm the accuracy of the theory. Hypotheses are tested by the analysis of observations and on this basis the hypotheses are accepted or rejected (Johnson & Christensen, 2012). It is often assumed the two paradigms are conflictual, partly because of the tendency to contrast the two in order to demonstrate their distinctive approach to research. However, the increasing view of the two approaches is that of complementarity. This has led to a synthesis of the two which has provided a third research paradigm, the mixed method approach (Tashakkori & Teddlie, 2010).

Alliance can be considered as both an intrapersonal and interpersonal experience since it is, by definition, about the relationship between people. How it is measured is influenced by “rater’s” subjective experience. Thus, it can be argued that alliance cannot be completely understood through quantitative analysis alone as findings are compromised by the parameters
of existing measurement tools. These tools also assume a shared understanding of the constructs measured. The decision to use a qualitative research component in this study was motivated by the gains complementarity offers compared to a singular quantitative focus. As such the purpose was to add another layer or dimension to the data, thus widening and deepening the lens through which alliance is studied in the current treatment context.

The richness of the unstructured feedback provided by clients about their experience during earlier phases of the study prompted the decision to add this dimension to the study. The aim was for the qualitative data to assist in giving insight and illumination to interpretations made of the quantitative data, through the provision of a richer description of findings gained by more fully capturing the voice of the client.

This component would also allow for the element of new discovery by letting clients talk about alliance from their perspective and was deliberately designed to allow clients to freely reflect on their treatment and research experience. A clear attempt was made not to be directive in discussing the alliance concept as one aim of this study was to determine how central this concept was to the client. This component was also thought to provide a test of face validity of the concept of alliance within a unique treatment population, by making it possible to compare the clients’ conceptual understanding of alliance to those concepts which dominate quantitative measurement tools.

### 7.5.1 Procedure

The author administered the client WAI at three weeks and at 12 weeks a measure of treatment satisfaction (Treatment Perception Questionnaire, Marsden et al., 2000). At both these times the client was invited to make any comment they wished on the TEAM study. These comments were written down by the author. Through this process the author became aware that many clients wished to make additional comments beyond the standardised questionnaires. These comments captured a perspective from the client that was additional to the information being gathered through the quantitative part of the study. Thus the decision was made to collate and analyse these unstructured comments. Thematic analysis was conducted. Common themes that emerged from this feedback included research design, medication issues, the therapeutic relationship and motivation. From this information a semi-structured interview schedule was devised. The aim was to encourage clients to freely discuss
their experience of treatment with some consideration taken to connect with the overarching focus of the research, that of the role of the therapeutic relationship in treatment outcome.

The decision was made to interview clients after the completion of the CCM phase of treatment (24 weeks). For most this signalled the end of their contact with the therapist with whom the alliance relationship was being investigated. This also meant that the qualitative research would not contaminate or bias the 12 and 24 week quantitative outcomes. Informed consent to conduct and record interviews for later transcribing and analysis was gained prior to the interview.

The TEAM study was already underway when this component of research was developed. This meant that the first 88 TEAM clients were not eligible for a qualitative interview. Too much time had lapsed from when they had started treatment to meet the 24 week time frame. All subsequent TEAM clients (n=50) were invited to participate in a follow-up qualitative interview at 24 weeks. All accepted this invitation. Of a total pool of 50 potential recruits, 12 were interviewed six to nine months after treatment completion. This number was smaller than originally anticipated, due to significant disruption as a result of the Christchurch earthquakes (discussed in the preface), a disruption that also accounted for the wider timeframe in which interviews occurred following treatment.

### 7.5.2 Sample

Purposive sampling was applied to the 12 interviews conducted to ensure representation across gender, age and treatment experience. Therapist-client dyads in the sample included 7 of the 18 therapists in the study. Further details of clients interviewed and their therapists is provided in the qualitative results in Chapter Nine.

### 7.5.3 Interviewer and analyst

All interviews were conducted by the current author who had had previous telephone contact with clients when administering the client WAI three weeks into treatment and a questionnaire on treatment satisfaction at 12 weeks.

Prior to commencing interviews, an experienced qualitative researcher provided guidance in qualitative interview protocol. Then, following the first three interviews, the interviewer met
with two experienced qualitative researchers who reviewed transcripts and the interview process and provided further guidance.

A fundamental principle of the qualitative method is that “… the research (and its interpretations) cannot be separated from the researcher’s personal views and characterizations” (Creswell & Plano Clark, 2011, p. 210). As the interpreter of data the researcher is a key research instrument with their interpretations invariably shaped by their experience and viewpoints, similar to how light is shaped travelling through a prism. As outlined in the preface I bring to the research over 25 years of experience of working in mental health and social services, including clinical roles working with people with alcohol dependence and depression. I also bring personal experience as a close family member of someone who suffered from depression. While at this stage the aim is not to judge how these professional and personal factors influence the interpretation of data, undoubtedly I was not a naive enquirer. My professional and personal history has influenced my approach to the research and interpretations that were made in a way that differs from a researcher that did not have this level of experience or knowledge.

7.5.4 Interview questions

The interviews focussed on five main questions (Figure 4). Additional questions were used as prompts if the interviewee was not very forthcoming. Questions were selected in response to themes that had emerged from unprompted comments at the end of the three and 12 week standardised questionnaires. As the purpose was to “inductively” capture the client’s voice, questions were deliberately left open so as to allow client’s perspectives to emerge. The interview style followed an inductive probing method, with the interviewer’s prompts and questions guided by content offered by the client (Miles, Huberman, & Saldana, 2014). A deliberate decision was made not to use the term alliance when talking to clients as it is not a term commonly used by lay people and participants may not have interpreted it in a way congruent with its conceptual or clinical meaning (Bachelor, 1995).
Figure 4: Semi-structured telephone interview questionnaire

7.5.5 Data collection

Data were gathered from semi-structured telephone interviews. These ranged in length from 20 to 45 minutes and occurred at a prearranged time of the client’s choosing. When the interview was arranged, clients were briefed regarding the purpose and open nature of the discussion, as this differed from previous telephone interviews, and regarding anticipated length. An assurance of confidentiality was also given. Individual interviews were chosen rather than group interviews because it was thought clients might be more open to talking about their relationship with their therapist on a one-to-one basis, and for logistical reasons.

All interviews were digitally recorded for later transcribing and verbatim written transcripts were used for analysis to capture the depth of information clients shared. The interview was synchronous for the interviewer and interviewee (questions and responses occurring contiguously), which had several advantages. There was no significant time delay between question and answer so the interviewer and interviewee could immediately react to what the other says. The interviewee could also be more spontaneous in their response and not deliberate too long.

The decision to conduct phone interviews was based on convenience and logistics, as clients lived in diverse locations and minimal funding was available to complete this phase of the study. Conducting interviews by telephone meant increased accessibility, both geographically and with regard to time, as the client was not required to travel, and interview appointments could be scheduled at the best possible time for the client. These factors have been stated to
assist in minimising the intrusiveness of research and in facilitating a greater comfort with the interview process as the client can be interviewed while they are at home (King & Horrocks, 2010). A further advantage of the telephone interview was that the client could have an increased sense of anonymity which has been found to promote their willingness to be more open in sharing their experience (King & Horrocks, 2010). In addition, the telephone interviews could be recorded and the interviewer could take notes without being too disruptive.

There are clear limitations to telephone interviews. These include the reduction in information gained or conveyed through visual cues, particularly body language. In addition, the interviewer may have less control in altering the ambience or standardising the physical environment.

7.5.6 Analysis

Data were analysed using the General Inductive Approach in which detailed readings of the raw data focuses on allowing the findings to emerge without the constraints of prior assumptions, theories or specific hypotheses (Thomas, 2006). This analysis was conducted predominantly using the constant comparative method which is derived from grounded theory methodology (Creswell & Plano Clark, 2011). Each interview was critically compared with all the others to identify similarities and differences. The inductive method was used to draw new meaning from the data and identify common patterns and themes. The analytic process occurred in stages as outlined below.

7.5.7 Stage one

The first stage of analysis consisted of reading the interview transcripts several times to enable the researcher to become immersed in the data. Notes or jottings were made alongside textual data on each reading. The aim was for notations to be freely generated from the textual data, with repeated readings at this stage allowing for the consideration of multiple meanings in the data. Notes included a single word and short phrases that encapsulated the descriptive content, what the content evoked in the reader, direct quotations, silences and intonation.
This initial step was followed by reading the transcripts from a number of perspectives to highlight different aspects of the data and to encourage the author to examine the data from a range of viewpoints. These included:

1. **What are the things that I expected to find?** (recording why they fitted with the authors expectations)
2. **What are the things that surprised me and why?**
3. **What are the things I didn’t expect to find and that are new to me? How were they different from my expectations?**

After the transcripts had been read through several times comparative analysis was conducted in terms of how what one person had said was similar to or different from another person. This allowed both convergent and divergent perspectives to be examined (this tool is also employed in the interpretation of findings detailed later in this section). Analysis also took into account silence, when what was expected was not said, thus consideration of an absence of someone talking about something. Note-taking alongside the textual data continued throughout the whole process. The aim was to identify the most meaningful segments of textual data, thus creating data chunks, i.e. words, phrases or sentences of varying lengths, for further analysis (Miles, et al., 2014).

Following this process an inductive coding system of the data chunks was consecutively performed with each transcript. More than one code was able to be assigned to a data chunk if appropriate. Codes were based on the core content and meaning of the notes recorded alongside data chunks. Codes in earlier transcripts were applied in later transcripts, if they were felt to match, otherwise new ones were created. The code could relate to a one-word descriptor (most often nouns), a short phrase or several lines of conversation. Codes encapsulated both descriptive content and emotion conveyed. The assignment of codes was employed as a summative way to capture the essence of clients’ interpersonal and intrapersonal experience (Miles, et al., 2014).

Clear operational definitions were written for codes to assist in consistency of application, for later analysis and interpretation and for discussion with supervisors. Notes and jottings were utilised to define codes. This ensured that the codes remained relatively close to the data. Care was taken at this stage to avoid speculation on what might lie behind what the client had said or from making interpretations based on any particular theory.
7.5.7.1 **Reliability**

As a reliability check uncoded transcripts were read through one week after coding. Internal consistency of the codes and themes was 85%.

7.5.8 **Stage two**

The second stage of analysis involved developing an inventory of all the codes applied to data chunks. The inventory of codes was reviewed in conjunction with relevant data chunks to determine if the degree of overlap meant codes needed to be merged. This process also involved reviewing definitions and redefining and renaming codes in order to produce a final inventory.

From this inventory codes were grouped into categories on the basis of ties and connections observed. Data chunks, as with codes, could be placed in more than one category. In grouping data chunks together care was taken to maintain context and meaning. For example, phrases or comments preceding data were included if necessary.

Each category was given a label and a definition applied to capture the shared meaning of the codes within the category. Categories were grouped into themes and inter-related themes were grouped together under higher-order headings or broader themes, the grouping or factoring process being analogous to the factor analytic procedure used in statistical analysis. These broad themes acted as meta-codes providing a more parsimonious unit of analysis representing the overarching themes at a higher level of abstraction (Miles, et al., 2014).

Lastly transcripts were read through again to establish the degree to which codes, categories and themes encompassed all aspects of the interviews and to determine if any revision was needed.

7.5.9 **Interpretation of findings**

Findings were interpreted at different levels, beginning with the initial note-taking and continued throughout the process of coding and the identification of themes and meta-themes. Each stage required reflection on the meaning of the data.
Interpretation of the findings involved reflecting on how the data answered the qualitative research questions. It also involved stepping back and advancing a larger meaning with regard to how the qualitative data answered or informed on the quantitative research hypotheses. Several techniques were employed in the process of interpreting data and synthesising these interpretations. These included:

- Matrix/visual display of codes, categories and themes produced, shaped around interview questions (including examples of raw data chunks)
- Enhancement and interpretation of the conceptual meaning via refinement of the definitions of codes, categories and themes
- Partitioning of variables or common themes, e.g. changed thinking
- Counting, e.g. the number who had had previous treatment
- Use of conceptual analogues from wider literature to test plausibility of interpretation, e.g. Orford’s model of change (Orford, et al., 2006)
- Reflecting on surprises in the data, e.g. the lack of the link made by some clients prior to the TEAM study between their alcohol dependence and depression
- Examining exceptions to general themes within the data
- Actively seeking disconfirmation of interpretations
- Revisiting constant comparative questioning used in initial stages of data analysis

7.5.10 Conclusions

The two concepts of plausibility and parsimony underpinned final conclusions. Prior to these conclusions being drawn consideration of rival explanations and contradictory points of view were posed (Miles, et al., 2014). Consideration was also given to the influence which design limitations may have had on conclusions.

A narrative description was used to present these conclusions in the qualitative results (see Chapter Nine).
CHAPTER EIGHT: TEAM QUANTITATIVE RESULTS

This chapter presents quantitative results from the TEAM study, with qualitative findings presented in Chapter Nine. The presentation of quantitative findings begins with a description of variable properties in terms of their assumptions of normality and linearity. One of the central ways that this PhD research makes its distinctive contribution to literature is by investigating the relationship between alliance and treatment outcome in a particular treatment population, people who experience co-existing alcohol dependence and depression. Consequently, this chapter provides a detailed description of the demographic characteristics of the sample and their baseline diagnostic and drinking profile, along with a summary of drinking and mood over the course of the study.

Findings will then be presented as they relate to the research questions the investigation sought to answer (see section 7.2). Firstly, the findings from bivariate analysis concerning the associations between client characteristics and alliance will be presented followed by those regarding the associations between alliance and treatment outcomes. Next, the results from multivariate analysis, which includes the impact of covariates and moderators on the alliance-outcome relationship. Lastly, findings are reported from regression analysis regarding the predictive role of alliance in treatment outcome.

8.1 Variable properties

8.1.1 Assumptions of normality

Client total WAI score and subscales scores were negatively skewed with high ratings producing a ceiling effect in this variable. The assumptions of normality for the 3 and 12 week measures of DDD and PDHeavy were also violated due to the level of positive skew. This was largely due to a significant number of clients being abstinent at baseline, or the specific timepoint, resulting in a zero value. For medication there was a ceiling effect with a large number of clients taking medication on all days. Crosstabulations were used to examine the association between the continuous variable of alliance and categorical variables (e.g. marital status, ethnicity). Visual inspection to assess the distributions raised no further issues of concern.
Having looked at the distribution and the considerable skewness evident in a number of variables, the decision was made to employ non-parametric tests for bivariate analysis. Thus, Spearman’s’ rho correlations were used with continuous variables, the Mann-Whitney U test between the continuous variable of alliance and categorical variables. The Wilcoxon signed-rank test was performed to compare therapist and client WAI scores.

Parametric tests were performed for exploratory purposes to determine if they substantially changed the findings. For those variables not normally distributed transformed variables were used. This alternative analysis did not expose any further significant associations and results were remarkably similar to non-parametric findings.

8.1.2 Assumptions of linearity

The bivariate association of each predictor with the different outcome measures was examined visually to ensure they were linear. For the association with continuous predictor variables, tests for linearity involved producing scatterplots. This allowed for the visual inspection of outliers or other unusual patterns. For the association with categorical predictor variables, crosstabulations were observed to assess distribution.

Initial investigations indicated that the number of years clients had had in education or training was predictive of client-rated alliance. However, further examination of this relationship indicated that this finding was more likely to be the result of an outlier.

8.2 Overall outcomes for the broader TEAM study

The TEAM study was a pharmacotherapy investigation of the short-term effectiveness of citalopram compared with placebo, when combined with naltrexone and standard clinical case management, for the treatment of clients with co-existing alcohol dependence and depression, for both alcohol use and depressive symptoms. Preliminary analysis observed significant improvements in terms of clients’ drinking and mood over the course of treatment. There was no main effect of medication regime on treatment outcome.
8.3 Sample description: Client characteristics

8.3.1 Demographic characteristics

There were 123 clients in the sample. Demographic characteristics are given in Table 14. Clients’ mean age was 43.8 years (SD 8.83), with ages ranging from 21 to 64 years. Slightly over half of the clients were female (58.5%). There were 18.7% who stated they were of Māori descent, with 10.6% who identified Māori as their main ethnicity. Almost half were married or cohabiting (49.6%), and less than a quarter lived on their own (22.0%). The mean number of years in education or training was 13.5 years (range 5-23 years, SD 3.17) and over half of the clients were in paid employment (56.9%).

<table>
<thead>
<tr>
<th>Table 14: Demographic characteristics of clients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>Age</td>
</tr>
<tr>
<td>Gender: Male</td>
</tr>
<tr>
<td>Gender: Female</td>
</tr>
<tr>
<td>NZ European</td>
</tr>
<tr>
<td>Of Māori descent</td>
</tr>
<tr>
<td>Māori (as main ethnicity)</td>
</tr>
<tr>
<td>Married or cohabiting</td>
</tr>
<tr>
<td>Married</td>
</tr>
<tr>
<td>Cohabiting</td>
</tr>
<tr>
<td>Single</td>
</tr>
<tr>
<td>Separated, divorced or widowed</td>
</tr>
<tr>
<td>Education or training</td>
</tr>
<tr>
<td>In paid employment</td>
</tr>
<tr>
<td>Part-time</td>
</tr>
<tr>
<td>Full-time</td>
</tr>
<tr>
<td>Lives alone</td>
</tr>
</tbody>
</table>
8.3.2 Treatment history

Slightly over half the clients had received previous treatment for AOD issues (55.3%). Most of those who had received treatment had attended an outpatient setting (50.4%). A smaller number had attended a day programme (15.4%), a residential programme (14.6%) or received inpatient care for detoxification (13.8%).

Over three-quarters of clients had previously been prescribed antidepressant medication (77.2%). Approximately one third had received treatment other than medication for their depression (31.0%). Of this group slightly over a quarter had attended an outpatient setting (27.6%) and 13.8% had been admitted to hospital.

<table>
<thead>
<tr>
<th>Table 15: Clients’ treatment history</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Previous AOD treatment</td>
</tr>
<tr>
<td>- Outpatient treatment</td>
</tr>
<tr>
<td>- Day programme</td>
</tr>
<tr>
<td>- Residential programme</td>
</tr>
<tr>
<td>- Detoxification (inpatient)</td>
</tr>
<tr>
<td>Previous antidepressant medication</td>
</tr>
<tr>
<td>Other previous treatment for depression</td>
</tr>
<tr>
<td>- Outpatient</td>
</tr>
<tr>
<td>- Inpatient</td>
</tr>
</tbody>
</table>

8.3.3 Diagnostic profile at baseline

Clients’ mean age at the onset of alcohol dependence was 29.7 years (range 14-58 years, SD 9.56), and clients’ mean age when they experienced their first depressive episode was 24.3 years (range 5-58 years, SD 11.46yrs). Of the 123 clients, three-quarters were identified as having a primary mood disorder (75.6%), and in one quarter (24.4%) mood disorder was diagnosed as secondary. Level of alcohol dependency was assessed using the LDQ. Based on categorical norms at baseline, clients were evenly distributed across the three categories with 41 clients (33%) mildly dependent, 45 (37%) moderately dependent and 37 (30%) assessed to be severely dependent.
Table 16: Clients’ diagnostic profile

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
<th>( \bar{X} ) years (SD)</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age of onset of alcohol dependence</td>
<td></td>
<td></td>
<td>29.7 (9.56)</td>
<td>14-58</td>
</tr>
<tr>
<td>Age of onset of depression</td>
<td></td>
<td></td>
<td>24.3 (11.46)</td>
<td>5-58</td>
</tr>
<tr>
<td>Primary Mood Disorder</td>
<td>93</td>
<td>75.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secondary Mood Disorder</td>
<td>30</td>
<td>24.4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8.3.4 Treatment location

Treatment was offered at ten different sites throughout NZ. Most of the treatment (64.2%) was delivered in large urban areas (population over 100,000)\(^5\). Approximately one third of the sample received their treatment at the Clinical Research Unit which was located in one of NZ’s four large urban areas (35.0%). The distribution of where treatment was delivered is presented in Table 17.

Table 17: Number of therapists and clients per site

<table>
<thead>
<tr>
<th>Site/Venue</th>
<th>Number of therapists (n=18)</th>
<th>Number of clients (n=123)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bay of Islands</td>
<td>1</td>
<td>17</td>
</tr>
<tr>
<td>Whangarei</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>Auckland</td>
<td>1</td>
<td>18</td>
</tr>
<tr>
<td>Hamilton</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Rural Waikato</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Nelson</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>Blenheim</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>Christchurch – 1</td>
<td>5</td>
<td>43</td>
</tr>
<tr>
<td>Christchurch – 2</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Dunedin</td>
<td>2</td>
<td>7</td>
</tr>
</tbody>
</table>

\(^5\) These urban areas are considered large within the context of the total population of NZ which was 4.25 million at the end of 2007.
8.3.5 Treatment group

Of the 123 clients, 57 (46.3%) were assigned to the naltrexone plus placebo group and 66 (53.7%) to the naltrexone plus citalopram.

8.4 Outcome measures over the course of the study

Outcome measures at baseline, three weeks, 12 weeks (end of treatment) and change scores between baseline and three weeks and baseline and 12 weeks provide a summary of the drinking and mood profile of the sample over the course of the study. These findings are presented in Table 18. Most of the change in mood and drinking occurred in the first three weeks, particularly with drinking outcomes.

<table>
<thead>
<tr>
<th></th>
<th>PDA</th>
<th>DDD</th>
<th>PDHeavy</th>
<th>MADRS</th>
<th>SCL-90-R-dep</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>X (SD)</td>
<td>X (SD)</td>
<td>X (SD)</td>
<td>X (SD)</td>
<td>X (SD)</td>
</tr>
<tr>
<td>Baseline</td>
<td>.27 (.27)</td>
<td>13.78 (7.14)</td>
<td>.58 (.33)</td>
<td>30.93 (5.47)</td>
<td>1.95 (.69)</td>
</tr>
<tr>
<td>3 weeks</td>
<td>.66 (.33)</td>
<td>5.55 (5.96)</td>
<td>.16 (.24)</td>
<td>16.45 (9.61)</td>
<td></td>
</tr>
<tr>
<td>12 weeks</td>
<td>.66 (.31)</td>
<td>6.12 (5.50)</td>
<td>.14 (.19)</td>
<td>11.91 (10.07)</td>
<td>1.12 (.86)</td>
</tr>
<tr>
<td>3 week change scores</td>
<td>.38 (.34)</td>
<td>-7.77 (7.70)</td>
<td>-.42 (.39)</td>
<td>-13.89 (9.84)</td>
<td></td>
</tr>
<tr>
<td>12 week change scores</td>
<td>.39 (.33)</td>
<td>-7.67 (7.18)</td>
<td>-.44 (.33)</td>
<td>-19.02 (10.86)</td>
<td>-.83 (.98)</td>
</tr>
</tbody>
</table>

Level of alcohol dependence was assessed using the LDQ. At baseline clients were distributed evenly amongst the three LDQ categories: mild, 33%; moderate, 37% and severe, 30%. At the 12 week end of treatment, the LDQ was completed by 98 of the original 123. Of the 98 clients assessed, 88 (90%) were at the mild level of dependence, 7 (7%) at moderate level and 3 (3%) at the severe. Between baseline and 12 week end of treatment the mean continuous LDQ score reduced from 19.25 to 5.88.
Motivation was assessed using the RCQ-TV. At baseline, of the 123 clients, 69 (56.1%) were in the contemplation stage and 54 (43.9%) the action stage. At the completion of treatment, the RCQ-TV was completed by 100 of the original 123. At this time 16 clients were assessed as being at the contemplation stage (13%) and 84 (81.3%) at the action stage. The mean RCQ-TV continuous score reduced from 15.68 (SD 5.6) to 13.31 (SD 6.6).

Client’s self-efficacy was rated using the SCQ. At baseline the mean SCQ score was 46.64 (SD 20.3), increasing to 73.38 (21.8) at the end of treatment.

Further measures of change in mood are provided by comparing baseline and 12 week severity on the MADRS. At the 12 week end of treatment the mood disorder for 50.4% of clients was in remission. Changes in severity of illness are illustrated in Table 20.

<table>
<thead>
<tr>
<th>Table 19: Level of dependence on the LDQ</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Baseline (n=123)</strong></td>
</tr>
<tr>
<td>LDQ</td>
</tr>
<tr>
<td>Continuous score</td>
</tr>
<tr>
<td>Categorical level</td>
</tr>
<tr>
<td>- Mild</td>
</tr>
<tr>
<td>- Moderate</td>
</tr>
<tr>
<td>- Severe</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 20: Severity of Depression on the MADRS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Baseline (n=123)</strong></td>
</tr>
<tr>
<td>Severity</td>
</tr>
<tr>
<td>Not normally ill</td>
</tr>
<tr>
<td>Slightly ill</td>
</tr>
<tr>
<td>Mildly ill</td>
</tr>
<tr>
<td>Moderately ill</td>
</tr>
<tr>
<td>Moderately severely ill</td>
</tr>
<tr>
<td>Severely ill</td>
</tr>
</tbody>
</table>
8.5 Alliance

8.5.1 Rater perspective

Alliance was rated significantly higher by clients, 6.36 (SD .52) compared with 5.68 (SD .55) for therapist-rated alliance. Ratings were out of a possible maximum of 7. Clients’ alliance ratings were also significantly higher than those of therapists on each of the three subscales. All have large effect sizes (all greater than 1.0). Table 21 provides the mean ratings, standard deviations and range for WAI total scores and each of the subscales, as well as results from the Wilcoxon signed-rank tests comparing therapist and client alliance ratings.

<table>
<thead>
<tr>
<th></th>
<th>Means</th>
<th>Median</th>
<th>SD</th>
<th>Range</th>
<th>z</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>WAI total</td>
<td>5.68</td>
<td>5.72</td>
<td>.55</td>
<td>4.14 - 6.67</td>
<td>-.8153</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>- Therapist</td>
<td>6.36</td>
<td>6.47</td>
<td>.52</td>
<td>3.67 - 7.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Client</td>
<td>6.47</td>
<td>5.72</td>
<td>.52</td>
<td>4.14 - 6.67</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WAI bond</td>
<td>5.70</td>
<td>5.67</td>
<td>.60</td>
<td>3.67 - 6.83</td>
<td>-7.485</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>- Therapist</td>
<td>6.39</td>
<td>6.50</td>
<td>.55</td>
<td>4.17 - 7.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Client</td>
<td>6.50</td>
<td>5.67</td>
<td>.55</td>
<td>4.17 - 7.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WAI task</td>
<td>5.70</td>
<td>5.75</td>
<td>.61</td>
<td>4.17 - 6.91</td>
<td>-7.609</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>- Therapist</td>
<td>6.36</td>
<td>6.50</td>
<td>.57</td>
<td>3.42 - 7.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Client</td>
<td>6.50</td>
<td>5.75</td>
<td>.57</td>
<td>3.42 - 7.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WAI goal</td>
<td>5.65</td>
<td>5.75</td>
<td>.63</td>
<td>4.0 - 6.67</td>
<td>-7.816</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>- Therapist</td>
<td>6.33</td>
<td>6.5</td>
<td>.62</td>
<td>3.42 - 7.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Client</td>
<td>6.50</td>
<td>5.75</td>
<td>.62</td>
<td>3.42 - 7.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The number of clients per therapist ranged from one to eighteen with a mean of approximately seven. Two therapists saw 17 clients and two therapists saw 18 clients. On some occasions clients were seen by more than one therapist if their original therapist had left the service or was away on leave.

WAI total and subscale scores between clients and therapists were not significantly correlated. These correlations are provided in Table 22.
Based on previous research it was expected that therapist and client ratings would be significantly related to each other (see section 2.2.2). Therapist and client alliance ratings were further examined to determine if there was any underlying cause for the lack of significant associations. Graphical analysis was conducted with box plots illustrating the range of alliance ratings given by therapists and clients. These are presented in Figures 5 and 6.

Table 22: Correlations between therapist and client WAI total and subscales scores

<table>
<thead>
<tr>
<th></th>
<th>Therapist total</th>
<th>Therapist bond</th>
<th>Therapist task</th>
<th>Therapist goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client total</td>
<td>.126</td>
<td>.120</td>
<td>.113</td>
<td>.130</td>
</tr>
<tr>
<td>Client bond</td>
<td>.084</td>
<td>.099</td>
<td>.078</td>
<td>.083</td>
</tr>
<tr>
<td>Client task</td>
<td>.074</td>
<td>.049</td>
<td>.084</td>
<td>.076</td>
</tr>
<tr>
<td>Client goal</td>
<td>.154</td>
<td>.145</td>
<td>.117</td>
<td>.168</td>
</tr>
</tbody>
</table>

Figure 5: Therapists’ WAI scores
Therapist mean ratings of alliance with their clients ranged from 4.68 to 6.42. This range remained unchanged when excluding therapists who saw fewer than five clients.

When clients were grouped by therapist, mean WAI total scores ranged from 6.08 to 6.68. For the subset of therapists who saw more than five clients mean scores ranged from 6.08 to 6.53.

![Figure 6: Clients’ WAI scores grouped by therapist](image)

Similar distributions, including a similar disparity between therapist and client distributions, were found for the subscales.

An examination of the effect outliers may have had on the association between therapist and client ratings was conducted separately, firstly excluding the therapist who had the lowest scores on the therapist WAI (therapist 11), and secondly, by individually excluding each of the two therapists who had high scores on the therapist WAI (therapists 8 and 9). There were no significant associations between client and therapist total WAI or subscale scores when excluding therapist 11 (n=6) nor when excluding therapist 8 (n=6). When excluding therapist 9 (n=2), the correlations between the client and therapist goal increased slightly from
This increase resulted in this association now being marginally statistically significant ($p = .049$).

Scatterplots were produced to provide a visual representation of correlations between client and therapist WAI totals and subscale scores. Visual inspection indicated there were no unusual patterns of correlations within these scatterplots, such as a non-linear relationship, which would account for the lack of association between therapist- and client-alliance ratings. The scatterplot for the total WAI scores is presented in Figure 7 below.

![Scatterplot of therapists’ and clients’ WAI scores](image)

**Figure 7: Scatterplot of therapists’ and clients’ WAI scores**

### 8.6 Bivariate associations

Bivariate associations between alliance and client variables are shown in Tables 23 to 32. Statistical tests employed for each association were outlined in section 7.4.14. In most instances the full sample was available for analysis. Where numbers differ from the full sample this is stated.
8.6.1 Baseline demographic variables

Client and therapist WAI total and subscale scores were not significantly associated with age, education, gender, marital status, ethnicity (whether or not they were of Māori descent), employment status (in paid employment versus not in paid employment) or living alone. Associations with WAI total scores are presented in Table 23.

| Table 23: Associations between WAI scores and clients’ demographic characteristics |
|-----------------------------------|---------------------|-----------------|-----------------|---------------------|-------------------|------------------|
|                                   | Therapist WAI       |                 | Client WAI      |                    |                   |                  |
|                                   | r       | U     | z     | p     | r       | U     | z     | p     |
| Age                               | .024    |       |       |       | .063    |       |       |       |
| Education                         | .054    |       |       |       | -.129   |       |       |       |
| Gender                            |         |       |       |       |         |       |       |       |
| Male                              | 1675.0  | -.827 | .41  |       | 1732.0  | -.534 | .59  |       |
| Female                            |         |       |       |       |         |       |       |       |
| Marital status                    |         |       |       |       |         |       |       |       |
| - Married or cohabiting           | 1758.5  | -.670 | .50  |       | 1774.5  | -.589 | .56  |       |
| - Single, widowed or divorced     |         |       |       |       |         |       |       |       |
| In paid employment                | 1637.5  | -1.111 | .27  |       | 1811.5  | -.222 | .82  |       |
| Not in paid employment            |         |       |       |       |         |       |       |       |
| Māori descent                     | 1115.0  | -.227 | .82  |       | 965.0   | -1.20 | .23  |       |
| Not of Māori descent              |         |       |       |       |         |       |       |       |
| Lives alone                       | 1255.0  | -.251 | .80  |       | 1255.0  | -.248 | .80  |       |
| Does not live alone               |         |       |       |       |         |       |       |       |

Neither age of onset of alcohol dependence nor age of first depressive episode was significantly associated with the therapist or client total WAI scores. Examination of WAI subscale scores found that age at the first depressive episode and the therapist bond subscale were significantly associated ($r = .240, p < .05$). The older the client’s age at first depressive episode, the higher the therapist’s bond subscale score. There were no other significant associations with subscale scores.
8.6.2 Baseline diagnostic variables

Mann-Whitney U tests found that therapist and client mean alliance scores were not significantly different for clients with primary depression from those whose depression was secondary to alcohol dependence.

Table 24: Associations between WAI scores and baseline diagnostic variables

<table>
<thead>
<tr>
<th>Therapist WAI</th>
<th>Client WAI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>r</td>
</tr>
<tr>
<td>Age of onset of alcohol dependence</td>
<td>.129</td>
</tr>
<tr>
<td>Age of onset of depression</td>
<td>.174</td>
</tr>
<tr>
<td>1. Primary Mood Disorder (n=93)</td>
<td>1364.0</td>
</tr>
<tr>
<td>2. Secondary Mood Disorder (n=30)</td>
<td>1293.0</td>
</tr>
</tbody>
</table>

8.6.3 Treatment history

Mann-Whitney U tests performed to determine if there was an association between alliance and treatment history found no significant group difference between whether clients had a history of treatment for depression or AOD issues for client and therapist WAI total or subscale scores.

Table 25: Associations between WAI scores and treatment history

<table>
<thead>
<tr>
<th>Therapist WAI</th>
<th>Client WAI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>U</td>
</tr>
<tr>
<td>Prescribed antidepressants (n=95) Never prescribed antidepressants (n=28)</td>
<td>1138.5</td>
</tr>
<tr>
<td>Previous treatment for depression (n=38) No previous treatment for depression (n=85)</td>
<td>1399.0</td>
</tr>
<tr>
<td>Previous treatment for AOD issues (n=68) No previous treatment for AOD issues (n=55)</td>
<td>1618.0</td>
</tr>
</tbody>
</table>
Examining the relationship between the specific types of treatment clients had received in the past and alliance showed that therapist’s WAI total score was significantly higher if the client had been an inpatient for depression (U = 584.00, z = -2.320, p = .02).

### 8.6.4 Drinking-related variables

Alliance was significantly associated with one drinking-related variable, the RCQ-TV score at baseline ($r = .235$, $p < .01$). As such the higher the client’s RCQ-TV score the higher the therapist-rated alliance. This pattern of association was also found between the client’s RCQ-TV score and therapist subscales: bond, $r = .208$, $p < .05$, task, $r = .242$, $p < .01$ and goal, $r = .225$, $p < .05$. Client WAI total or subscale scores were not significantly related to RCQ-TV at baseline.

Mann-Whitney U tests were performed to determine if a client’s stage of change was significantly associated with alliance or the subscale components. Therapist alliance ratings were significantly higher for clients who at baseline were at the action stage of change compared to those at the contemplation stage (U = 1469.0, z = -2.008, $p = .045$, $r = .18$). A trend towards this association was also shown with the task and goal subscale.

Neither therapist nor client total WAI scores were significantly correlated with any other drinking variables at baseline, 12 weeks or with change in outcome measures between the two timepoints. These correlations are presented in Table 26 and the results of Mann-Whitney U tests with the RCQ-TV stage of change presented in Table 27.

There was a trend towards significance between therapist-rated alliance and several outcome measures that assessed change in drinking between baseline and 12 week end of treatment. This included DDD ($r = -.176$, $p = .052$), PDHeavy ($r = -.171$, $p = .06$) and LDQ ($r = -.170$, $p = .06$). As such the greater the alliance the greater the decrease in drinks per drinking day, greater the decrease in the percentage of days when drinking occurred that were heavy drinking days, and greater the decrease in the severity of level of alcohol dependence as measured on the LDQ. There was also a trend towards an association between RCQ-TV at 12 weeks and therapist alliance ($r = .174$, $p = .083$), the greater the alliance, the higher the clients readiness to change their drinking.
Table 26: Correlations between WAI scores and drinking-related variables

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>3 weeks</th>
<th>12 weeks</th>
<th>3 wk change scores</th>
<th>12 wk change scores</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Thp Cl</td>
<td>Thp Cl</td>
<td>Thp Cl</td>
<td>Thp Cl</td>
<td>Thp Cl</td>
</tr>
<tr>
<td>PDA</td>
<td>.075 -.060</td>
<td>.125 .070</td>
<td>.169 .121</td>
<td>.031 .058</td>
<td>.089 .093</td>
</tr>
<tr>
<td>DDD</td>
<td>.151 .085</td>
<td>-.071 -.011</td>
<td>-.040 .000</td>
<td>-.168 -.074</td>
<td>-.176# -.098</td>
</tr>
<tr>
<td>PD Heavy</td>
<td>.093 .103</td>
<td>-.128 -.099</td>
<td>-.138 -.054</td>
<td>-.148 -.162</td>
<td>-.171# -.098</td>
</tr>
<tr>
<td>LDQ</td>
<td>.030 -.017</td>
<td>-.120 -.041</td>
<td>-.170# -.048</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RCQ-TV</td>
<td>.235** .087</td>
<td>.174# .147</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCQ</td>
<td>-.051 -.118</td>
<td>.164 .070</td>
<td>.167 -.005</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Thp = therapist; Cl = client  ** p < .01; * p < .05, # p < .10
NB. For the RCQ-TV at 12 weeks, n = 100; for the SCQ at 12 weeks, n = 96

Table 27: Mann-Whitney U tests between WAI scores and RCQ-TV stage of change

<table>
<thead>
<tr>
<th>Therapist WAI</th>
<th>Client WAI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Therapist</td>
</tr>
<tr>
<td></td>
<td>U</td>
</tr>
<tr>
<td>WAI total score</td>
<td>1469.0</td>
</tr>
<tr>
<td>- bond subscale</td>
<td>1540.0</td>
</tr>
<tr>
<td>- task subscale</td>
<td>1480.5</td>
</tr>
<tr>
<td>- goal subscale</td>
<td>1491.0</td>
</tr>
</tbody>
</table>

(Contemplation, n=69; Action, n=54), * p < .05

8.6.4.1 Associations with the WAI bond, task and goal subscales

Examining the associations between the WAI subscales and drinking outcomes showed that the therapists’ task subscale was significantly associated with drinking outcomes at specific timepoints and with changes in drinking between timepoints. Neither therapists’ bond nor goal subscales were significantly related to any of the drinking outcomes. These associations are presented in Table 28.

Therapists ratings on the task subscale were significantly correlated with PDA ($r = .224$, $p < .05$) and PDHeavy ($r = -.217$, $p < .05$) at 3 weeks, and at the 12 week end of treatment, PDA ($r = .292$, $p < .01$) and PDHeavy ($r = -.230$, $p < .05$). As such the higher the therapist
rated the task subscale, the greater the PDA both at 3 weeks and 12 weeks (end of treatment). With heavy drinking days, the higher the therapist alliance on the task subscale, the lower the PDHeavy at both 3 and 12 weeks.

Therapist ratings on the task subscale were significantly associated with change in DDD between baseline and 3 weeks ($r = -.189, p < .05$). As such, the higher therapist ratings on the task subscale, the greater the decrease in DDD between baseline and three weeks. There were no other significant relationships between three week change scores and any of the subscales.

Therapist ratings on the task subscale were significantly associated with changes in drinking between baseline and 12 weeks, as follows: PDA ($r = .187, p < .05$); DDD ($r = -.216, p < .05$); PDHeavy, ($r = -.193, p < .05$) and LDQ ($r = -.218, p < .05$). The greater the therapist’s rating on the task subscale, the greater the increase in percent days abstinent, and the greater the decrease in percent of days of heavy drinking and drinks per drinking day. In addition, the greater the therapist’s rating on the task subscale, the greater the decrease in level of dependency as measured by the LDQ.

The only other subscale association found was between the changes in DDD from baseline to 12 weeks and the therapist’s rating on the goal subscale ($r = -.193, p < .05$). Higher ratings on the goal subscale were associated with a greater decrease in DDD over the course of treatment.

Client WAI subscale scores were not significantly related to baseline outcomes or change scores between baseline and three weeks or between baseline and 12 weeks. Correlations are presented in Table 28.
Table 28: Correlations between WAI subscale scores and drinking outcomes

<table>
<thead>
<tr>
<th></th>
<th>WAI bond</th>
<th></th>
<th>WAI task</th>
<th></th>
<th>WAI goal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Therapist</td>
<td>Client</td>
<td>Therapist</td>
<td>Client</td>
<td>Therapist</td>
</tr>
<tr>
<td>PDA</td>
<td>- Baseline</td>
<td>.017</td>
<td>- .068</td>
<td>.130</td>
<td>.019</td>
</tr>
<tr>
<td></td>
<td>- 3 weeks</td>
<td>-.002</td>
<td>-.043</td>
<td>.224*</td>
<td>.123</td>
</tr>
<tr>
<td></td>
<td>- 12 week</td>
<td>-.020</td>
<td>.033</td>
<td>.292**</td>
<td>.161</td>
</tr>
<tr>
<td></td>
<td>- 3 wk change</td>
<td>-.017</td>
<td>-.027</td>
<td>.104</td>
<td>.075</td>
</tr>
<tr>
<td></td>
<td>- 12 wk change</td>
<td>-.018</td>
<td>.038</td>
<td>.187*</td>
<td>.101</td>
</tr>
<tr>
<td>DDD</td>
<td>- Baseline</td>
<td>.164</td>
<td>.103</td>
<td>.171</td>
<td>.076</td>
</tr>
<tr>
<td></td>
<td>- 3 weeks</td>
<td>.011</td>
<td>.038</td>
<td>-.111</td>
<td>-.010</td>
</tr>
<tr>
<td></td>
<td>- 12 week</td>
<td>.089</td>
<td>-.020</td>
<td>-.097</td>
<td>.066</td>
</tr>
<tr>
<td></td>
<td>- 3 wk change</td>
<td>-.158</td>
<td>-.137</td>
<td>-.189*</td>
<td>-.056</td>
</tr>
<tr>
<td></td>
<td>- 12 wk change</td>
<td>-.123</td>
<td>-.113</td>
<td>-.216*</td>
<td>-.052</td>
</tr>
<tr>
<td>PD Heavy</td>
<td>- Baseline</td>
<td>.141</td>
<td>.104</td>
<td>.072</td>
<td>.037</td>
</tr>
<tr>
<td></td>
<td>- 3 weeks</td>
<td>-.037</td>
<td>-.035</td>
<td>-.217*</td>
<td>-.080</td>
</tr>
<tr>
<td></td>
<td>- 12 week</td>
<td>.035</td>
<td>-.031</td>
<td>-.230*</td>
<td>-.040</td>
</tr>
<tr>
<td></td>
<td>- 3 wk change</td>
<td>-.173</td>
<td>-.132</td>
<td>-.156</td>
<td>-.102</td>
</tr>
<tr>
<td></td>
<td>- 12 wk change</td>
<td>-.154</td>
<td>-.107</td>
<td>-.193*</td>
<td>-.072</td>
</tr>
<tr>
<td>LDQ</td>
<td>- Baseline</td>
<td>.019</td>
<td>-.035</td>
<td>.061</td>
<td>.017</td>
</tr>
<tr>
<td></td>
<td>- 12 week</td>
<td>-.029</td>
<td>-.040</td>
<td>-.158</td>
<td>-.024</td>
</tr>
<tr>
<td></td>
<td>- 12 wk change</td>
<td>-.084</td>
<td>.040</td>
<td>-.218*</td>
<td>.060</td>
</tr>
<tr>
<td>RCQ-TV</td>
<td>- Baseline</td>
<td>.208*</td>
<td>.146</td>
<td>.242**</td>
<td>.100</td>
</tr>
<tr>
<td></td>
<td>- 12 week</td>
<td>.121</td>
<td>.131</td>
<td>.207*</td>
<td>.149</td>
</tr>
<tr>
<td>SCQ</td>
<td>- Baseline</td>
<td>-.130</td>
<td>-.084</td>
<td>-.001</td>
<td>-.121</td>
</tr>
<tr>
<td></td>
<td>- 12 week</td>
<td>.062</td>
<td>.061</td>
<td>.155</td>
<td>.023</td>
</tr>
</tbody>
</table>

** p < .01; * p < .05

8.6.5 Mood variables

Therapist-rated alliance was significantly correlated with 12 week mood outcomes (MADRS, $r = -.205$, $p < .05$ and SCL-90-R-dep, $r = -.224$, $p < .05$) and the MADRS 12 week change score ($r = -.237$, $p < .01$), but not with the SCL-90-R-dep 12 week change score. As such, therapists rated alliance higher for clients who had fewer depressive symptoms at the end of treatment. Also, the greater the therapist-rated alliance, the greater the reduction in the client’s depressive symptoms between baseline and 12 weeks. Correlations are shown in Table 29.
Table 29: Correlations between WAI scores and mood variables

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>3 weeks</th>
<th>12 weeks</th>
<th>3 week change scores</th>
<th>12 week change scores</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Thp Cl</td>
<td>Thp Cl</td>
<td>Thp Cl</td>
<td>Thp Cl</td>
<td>Thp Cl</td>
</tr>
<tr>
<td>MADRS</td>
<td>.049 -.057</td>
<td>-.113 -.080</td>
<td>-.205* .018</td>
<td>-.113 -.081</td>
<td>-.237** .066</td>
</tr>
<tr>
<td>SCL-90-R-dep</td>
<td>-.078 -.090</td>
<td>-.224* .061</td>
<td></td>
<td></td>
<td>-.106 -.066</td>
</tr>
</tbody>
</table>

Thp = therapist; Cl = client  ** p < .01, * p < .05

8.6.5.1  Associations with the WAI bond, task and goal subscales

As with drinking-related outcomes, therapist ratings on the task subscale were significantly associated with 12 week MADRS scores ($r = -.223, p < .05$). Therapist’s ratings on the goal subscale were similarly related ($r = -.206, p < .05$). As such, the higher the therapist task or goal subscale score, the lower the client’s MADRS score as the end of treatment. Whilst the 12 week score on the SCL-90-R-depression subscale was associated with the therapist task subscale ($r = -.221, p < .05$), there was no relationship with the goal subscale. The therapist rating on the bond subscale was not related to either mood outcomes at 12 weeks. Subscale scores were not related to any of the three week mood outcomes.

Table 30: Correlations between WAI subscale scores and mood

<table>
<thead>
<tr>
<th></th>
<th>WAI bond</th>
<th>WAI task</th>
<th>WAI goal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Therapist</td>
<td>Client</td>
<td>Therapist</td>
</tr>
<tr>
<td>MADRS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Baseline</td>
<td>.149</td>
<td>-.039</td>
<td>-.009</td>
</tr>
<tr>
<td>- 3 weeks</td>
<td>.033</td>
<td>-.072</td>
<td>-.148</td>
</tr>
<tr>
<td>- 12 week</td>
<td>-.102</td>
<td>-.016</td>
<td>-.223*</td>
</tr>
<tr>
<td>- 3 wk change</td>
<td>-.097</td>
<td>-.094</td>
<td>-.130</td>
</tr>
<tr>
<td>- 12 wk change</td>
<td>-.177#</td>
<td>.071</td>
<td>-.220*</td>
</tr>
<tr>
<td>SCL-90-R-dep</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Baseline</td>
<td>-.114</td>
<td>-.092</td>
<td>.096</td>
</tr>
<tr>
<td>- 12 week</td>
<td>-.160</td>
<td>.102</td>
<td>-.221*</td>
</tr>
<tr>
<td>- 12 wk change</td>
<td>-.032</td>
<td>.164</td>
<td>-.130</td>
</tr>
</tbody>
</table>

** p < .01, * p < .05, # p = .051
With regard to change in mood between the timepoints, as with therapist WAI total score, therapist’s scores on the task and goal subscale were significantly associated with change in MADRS score between baseline and 12 weeks (task, \( r = -.220, p < .05 \); and goal, \( r = -.235, p < .01 \)). Therapist ratings were not related to change in MADRS scores between baseline and three weeks nor to change on the SCL-90-R-dep subscale score between baseline and 12 weeks.

### 8.6.5.2 Alliance and remission from depression

By the end of treatment depression had remitted for just over half the clients, \( n = 62 \). The other 61 clients continued to report clinically significant levels of depressive symptoms. Results of Mann-Whitney U tests indicated that there was no significant group difference between those in remission from depression from those still clinically depressed for either therapist alliance (\( U = 1559.5, z = -1.677, p = .094 \)) or client alliance (\( U = 1854.5, z = -1.185, p = .853 \)).

The single independent measure of therapist alliance mean score was entered in a binary logistic regression to predict remission status at 12 weeks. This yielded a non-significant model in which 52.8% of clients were successfully categorised at 12 weeks (Cox & Snell \( R^2 = .002 \), Wald = 2.976, \( p = .085 \)). Similarly, entering the client mean alliance score also yielded a non-significant model in which the remission status of 53.7% of clients was successfully categorised at six months (Cox & Snell \( R^2 = .025 \), Wald = .281, \( p = .596 \)).

### 8.6.6 Treatment attendance

The median number of sessions clients attended was 6 (\( \bar{X} = 5.5 \)). The number attended ranged from two to nine sessions, with 91 attending at least six sessions (see Table 31). The session at 12 weeks was attended by 99 (80.5%) of the 123 clients in the sample. The number of sessions attended was not significantly associated with client or therapist WAI total or subscale scores.
Table 31: Treatment attendance

<table>
<thead>
<tr>
<th>Session</th>
<th>Last session attended</th>
<th>%</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 3</td>
<td>5</td>
<td>4.1</td>
<td>5.69</td>
</tr>
<tr>
<td>Week 6</td>
<td>7</td>
<td>5.7</td>
<td>9.76</td>
</tr>
<tr>
<td>Week 9</td>
<td>12</td>
<td>9.8</td>
<td>19.52</td>
</tr>
<tr>
<td>Week 12</td>
<td>99</td>
<td>80.5</td>
<td>100.00</td>
</tr>
<tr>
<td>Total</td>
<td>123</td>
<td>100.0</td>
<td>100.00</td>
</tr>
</tbody>
</table>

8.6.7 Treatment completion

Those who attended the 12 week session were considered to have completed treatment, and not having attended this session was defined as having dropped out of treatment. Of the 123 in the sample, 99 clients completed treatment (80.5%). Over the course of treatment, five clients dropped out at the three week timepoint, seven at six weeks and a further twelve at nine weeks.

The sample was divided into two groups, those who attended the 12 week session versus those who did not (99 compared to 24). A Mann-Whitney U test found a significant difference between these two groups. Therapists alliance was higher for clients who attended the 12 week session compared to those who did not \((U = 860.0, z = -2.090, p = .037, r = .19)\).

Findings regarding therapist subscales echoed previous patterns in which therapists’ ratings on the task subscale were significantly higher for the group who had attended the 12 week session and there was a trend towards significance on the goal subscale. Ratings on the therapists’ bond subscale and client WAI total and subscale scores did not differ significantly if clients had completed treatment or not.

8.6.8 Medication

There were no significant associations between client or therapist alliance and medication adherence (number of days medication was taken out of the total length of time the client was in treatment).
<table>
<thead>
<tr>
<th>Table 32: Correlations between WAI scores and medication adherence</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WAI total</strong></td>
</tr>
<tr>
<td><strong>Thp</strong></td>
</tr>
<tr>
<td>Adherence</td>
</tr>
<tr>
<td>Naltrexone</td>
</tr>
<tr>
<td>Citalopram</td>
</tr>
</tbody>
</table>

*Thp=therapist*

8.6.9 Treatment group

Mann-Whitney U tests were employed to determine if alliance was associated with treatment group (naltrexone + citalopram vs naltrexone + placebo). There was no significant difference in alliance between the two treatment groups either for therapist (U = 1820.0, z = -.309, p = .757) or client alliance (U = 1688.50, z = -.977, p = .329).

8.6.10 Alliance as a dichotomous variable

Client ratings of alliance were not normally distributed, since high ratings produced a ceiling effect. In light of the skew in distribution it was decided to test associations by creating a dichotomous alliance variable on the basis of those who rated alliance 6 or over compared with those who did not. Approximately one third of therapists rated alliance 6 or over (32%). This compared with the vast majority of clients who rated alliance 6 or over (80.5%).

This alternative strategy did not prove fruitful in uncovering any further significant associations. For the most part the pattern of associations between therapist or client alliance and drinking or mood outcomes was remarkably similar to that when alliance was analysed as a continuous measure.
8.7 Multivariate analyses

8.7.1 Covariate associations: Early symptom change

Partial correlations were used to control for the effect of early symptom change on the association between the therapist-rated alliance and 12 week outcomes and change in drinking and mood between baseline and 12 weeks. In all instances initial changes in mood were controlled using the change in MADRS between baseline and 3 weeks (SCL-90-R-dep was not assessed at 3 weeks. Changes according to this outcome measure could not therefore be controlled for). With PDA, DDD and PDHeavy drinking outcomes, the corresponding change in drinking (PDA, DDD or PDHeavy) between baseline and three weeks was controlled for. When looking at the effect of early changes in drinking on the LDQ (which was not assessed at three weeks), the MADRS and SCL-90-R, changes in PDA and DDD were controlled for as they were the primary outcome measures. Table 33 and 34 present the results of partial correlations controlling for early change at 12 weeks and change between baseline and 12 weeks, respectively.

Prior to controlling for early symptom change there was a trend towards significance between therapist alliance and change between baseline and 12 weeks with DDD, PDHeavy and LDQ. For DDD, after controlling for early changes (0-3 weeks), this trend was no longer indicated. With PDHeavy, however, the trend remained when controlling for early changes in mood but not when controlling for early changes in drinking. With the LDQ the trend no longer remained when early changes in mood were controlled for but did so when controlling for early changes in drinking. With each of these findings the impact of controlling for early symptom change weakened the association between alliance and the outcome variable. In contrast, controlling for early changes in drinking and both drinking and mood increased the strength of association between the 12 week PDA and alliance so that it became marginally significant. As such the higher the therapist-rated alliance, the higher the PDA at 12 weeks.

Prior to controlling for early symptom change the relationship was significant between the therapist alliance and MADRS at 12 weeks and the MADRS 12 week change score. These associations remained significant when controlling for change in MADRS between baseline and 3 weeks, early changes in drinking and when controlling for early changes in both mood and drinking.
Table 33: Partial correlations between therapist WAI scores and 12 week outcomes, controlling for early symptom change

<table>
<thead>
<tr>
<th>12 week outcome</th>
<th>Controlling for early changes in mood</th>
<th>Controlling for early changes in drinking</th>
<th>Controlling for early changes in drinking &amp; mood</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( r )</td>
<td>( r )</td>
<td>( r )</td>
</tr>
<tr>
<td>PDA - total</td>
<td>(.169# )</td>
<td>(.155# )</td>
<td>(.182* )</td>
</tr>
<tr>
<td>- bond</td>
<td>(-.020 )</td>
<td>(-.017 )</td>
<td>(.010 )</td>
</tr>
<tr>
<td>- task</td>
<td>(.292** )</td>
<td>(.290** )</td>
<td>(.299** )</td>
</tr>
<tr>
<td>- goal</td>
<td>(.172 )</td>
<td>(.144 )</td>
<td>(.184* )</td>
</tr>
<tr>
<td>DDD - total</td>
<td>(-.040 )</td>
<td>(-.008 )</td>
<td>(.013 )</td>
</tr>
<tr>
<td>- bond</td>
<td>(.089 )</td>
<td>(.102 )</td>
<td>(.121 )</td>
</tr>
<tr>
<td>- task</td>
<td>(-.097 )</td>
<td>(-.062 )</td>
<td>(-.040 )</td>
</tr>
<tr>
<td>- goal</td>
<td>(-.095 )</td>
<td>(-.059 )</td>
<td>(-.044 )</td>
</tr>
<tr>
<td>PDHeavy - total</td>
<td>(-.138 )</td>
<td>(-.104 )</td>
<td>(.113 )</td>
</tr>
<tr>
<td>- bond</td>
<td>(.035 )</td>
<td>(.046 )</td>
<td>(.172# )</td>
</tr>
<tr>
<td>- task</td>
<td>(-.230** )</td>
<td>(-.214# )</td>
<td>(.018 )</td>
</tr>
<tr>
<td>- goal</td>
<td>(-.153# )</td>
<td>(-.114 )</td>
<td>(.059 )</td>
</tr>
<tr>
<td>LDQ - total</td>
<td>(-.120 )</td>
<td>(-.112 )</td>
<td>(-.157# )</td>
</tr>
<tr>
<td>- bond</td>
<td>(-.029 )</td>
<td>(-.043 )</td>
<td>(-.085 )</td>
</tr>
<tr>
<td>- task</td>
<td>(-.158# )</td>
<td>(-.145 )</td>
<td>(-.184# )</td>
</tr>
<tr>
<td>- goal</td>
<td>(-.096 )</td>
<td>(-.115 )</td>
<td>(-.156# )</td>
</tr>
<tr>
<td>MADRS - total</td>
<td>(-.205# )</td>
<td>(-.195# )</td>
<td>(-.238** )</td>
</tr>
<tr>
<td>- bond</td>
<td>(-.102 )</td>
<td>(-.099 )</td>
<td>(-.140 )</td>
</tr>
<tr>
<td>- task</td>
<td>(-.223** )</td>
<td>(-.201# )</td>
<td>(-.243** )</td>
</tr>
<tr>
<td>- goal</td>
<td>(-.206# )</td>
<td>(-.151 )</td>
<td>(-.198# )</td>
</tr>
<tr>
<td>SCL-90-R-dep-total</td>
<td>(-.224** )</td>
<td>(-.159 )</td>
<td>(-.212# )</td>
</tr>
<tr>
<td>- bond</td>
<td>(-.160# )</td>
<td>(-.120 )</td>
<td>(-.167# )</td>
</tr>
<tr>
<td>- task</td>
<td>(-.221** )</td>
<td>(-.188# )</td>
<td>(-.236** )</td>
</tr>
<tr>
<td>- goal</td>
<td>(-.175# )</td>
<td>(-.125 )</td>
<td>(-.172# )</td>
</tr>
</tbody>
</table>

** \( p < .01 \), * \( p < .05 \), # \( p < .10 \)

8.7.1.1 *WAI bond, task and goal subscales*

Prior to controlling for initial symptom change the task subscale was significantly associated with drinking outcomes (PDA, DDD, PDHeavy and LDQ). After controlling for initial symptom change in mood and drinking (0-3 weeks) the task subscale score remained significantly associated with PDA at 12 weeks, the higher the task subscale score, the higher the PDA at 12 weeks. The relationship with PDHeavy at 12 weeks was rendered nonsignificant when controlling for early changes in drinking or for both mood and drinking. Lastly, when controlling for early changes in drinking the association between the LDQ and
the 12 week outcome increased so that it became marginally significant, the higher the task subscale score, the lower LDQ score at 12 weeks.

With 12 week change scores and the task subscale, when controlling for early changes in mood or drinking, the association between the higher task subscale score and lower LDQ score remained, while the associations with PDA and PDHeavy were rendered nonsignificant. In contrast, with DDD the relationship remained significant when controlling for early changes in mood but was rendered nonsignificant when controlling for early changes in drinking or both mood and drinking.

<table>
<thead>
<tr>
<th></th>
<th>12 week change score</th>
<th>Controlling for early changes in mood</th>
<th>Controlling for early changes in drinking</th>
<th>Controlling for early changes in drinking and mood</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>r</strong></td>
<td><strong>r</strong></td>
<td><strong>r</strong></td>
<td><strong>r</strong></td>
<td><strong>r</strong></td>
</tr>
<tr>
<td>PDA - total</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- bond</td>
<td>.089</td>
<td>.029</td>
<td>.097</td>
<td>.122</td>
</tr>
<tr>
<td>- task</td>
<td>-.018</td>
<td>-.054</td>
<td>-.021</td>
<td>-.005</td>
</tr>
<tr>
<td>- goal</td>
<td>.187*</td>
<td>.142</td>
<td>.160*</td>
<td>.141</td>
</tr>
<tr>
<td>DDD - total</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- bond</td>
<td>-.176#</td>
<td>-.144</td>
<td>-.076</td>
<td>-.084</td>
</tr>
<tr>
<td>- task</td>
<td>-.123</td>
<td>-.054</td>
<td>.041</td>
<td>.035</td>
</tr>
<tr>
<td>- goal</td>
<td>-.216*</td>
<td>-.191*</td>
<td>-.118</td>
<td>-.127</td>
</tr>
<tr>
<td>- goal</td>
<td>-.193*</td>
<td>-.161*</td>
<td>-.125</td>
<td>-.132</td>
</tr>
<tr>
<td>PDHeavy - total</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- bond</td>
<td>-.171#</td>
<td>-.163#</td>
<td>-.085</td>
<td>-.095</td>
</tr>
<tr>
<td>- task</td>
<td>-.154#</td>
<td>-.132</td>
<td>.010</td>
<td>.005</td>
</tr>
<tr>
<td>- goal</td>
<td>-.193*</td>
<td>-.159#</td>
<td>-.098</td>
<td>-.110</td>
</tr>
<tr>
<td>- goal</td>
<td>-.136</td>
<td>-.104</td>
<td>-.139</td>
<td>-.149</td>
</tr>
<tr>
<td>LDQ - total</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- bond</td>
<td>-.170#</td>
<td>-.132</td>
<td>-.169#</td>
<td>-.163#</td>
</tr>
<tr>
<td>- task</td>
<td>-.084</td>
<td>-.068</td>
<td>-.094</td>
<td>-.089</td>
</tr>
<tr>
<td>- goal</td>
<td>-.218*</td>
<td>-.195*</td>
<td>-.190*</td>
<td>-.184*</td>
</tr>
<tr>
<td>- goal</td>
<td>-.155#</td>
<td>-.148</td>
<td>-.175#</td>
<td>-.169#</td>
</tr>
<tr>
<td>MADRS - total</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- bond</td>
<td>-.237**</td>
<td>-.207*</td>
<td>-.259**</td>
<td>-.224*</td>
</tr>
<tr>
<td>- task</td>
<td>-.177#</td>
<td>-.167#</td>
<td>-.208*</td>
<td>-.185*</td>
</tr>
<tr>
<td>- goal</td>
<td>-.220*</td>
<td>-.151</td>
<td>-.198*</td>
<td>-.167#</td>
</tr>
<tr>
<td>- goal</td>
<td>-.235**</td>
<td>-.223*</td>
<td>-.260**</td>
<td>-.241**</td>
</tr>
<tr>
<td>SCL-90-R-dep-total</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- bond</td>
<td>-.06</td>
<td>-.056</td>
<td>-.109</td>
<td>-.074</td>
</tr>
<tr>
<td>- task</td>
<td>-.032</td>
<td>-.018</td>
<td>-.066</td>
<td>-.033</td>
</tr>
<tr>
<td>- goal</td>
<td>-.130</td>
<td>-.188*</td>
<td>-.236**</td>
<td>-.211*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.083</td>
<td>-.128</td>
<td>.098</td>
</tr>
</tbody>
</table>

** p < .01, * p < .05, # p < .10
The only other previous significant association with subscale scores and drinking outcomes was between the DDD 12 week change score and the goal subscale. This relationship was rendered nonsignificant when controlling for early changes in drinking or mood. A further change with the goal subscale was that controlling for early change in drinking or drinking and mood increased the strength of the relationship between 12 week PDA and the goal subscale. It then became significant in that the higher the goal subscale score, the higher the PDA at 12 weeks, whereas previously this had not been the case.

Prior to controlling for early symptom change, the task and goal subscales were significantly associated with the 12 week MADRS score. After controlling for initial symptom change, the association with the task subscale remained significant, the higher the task subscale score, the lower the 12 week MADRS score. This pattern of association with the goal subscale also remained when controlling for drinking, but not for mood. The association of the higher the task subscale, the lower the SCL-90-R-dep at 12 weeks remained when controlling for early changes in mood and drinking.

With the MADRS 12 week change score and the goal subscale, controlling for the effect of early symptom change did not alter the significance of the relationship, whereas with the task subscale it was no longer significant when controlling for early changes in mood or both mood and drinking. It remained significant when controlling for early changes in drinking, which also increased the strength of association between the MADRS and bond subscale. As a result this relationship became significant, the higher bond subscale, the lower the MADRS 12 week change score. Furthermore, controlling for mood or drinking increased the previously nonsignificant relationship between the task subscale and SCL-90-R-dep 12 week change score so that it became significant. The higher the task subscale score, the lower the SCL-90-R-dep 12 week change score.

### 8.7.2 Moderators of the alliance-outcome relationship

Analyses of variance were conducted to investigate whether motivation or self-efficacy had a moderating effect on the alliance-outcome relationship. No interaction effects were observed either between motivation and alliance nor self-efficacy and alliance, on any of the drinking or mood outcomes (PDA, DDD, PDHeavy, LDQ, MADRS and SCL-90-R-dep).
### 8.7.3 Predictors of outcome

Multivariate analyses were planned to determine whether alliance predicted improved mood or drinking outcomes either on its own or in association with other variables. Variables entered into the models were selected on the basis of bivariate analysis associations at the .10 level or below, and as indicated in literature. Even though there were a lack of significant associations between alliance and drinking outcomes this line of analysis was still pursued to determine if alliance might become a significant predictor once other variables were controlled for. Accordingly, a series of multivariate analyses was conducted. Stepwise regression was performed to derive an efficient predictive model, that is, to determine if client or therapist alliance, as rated on the WAI, was predictive of outcome beyond its association with other key variables. All outcome measures (PDA, DDD, PDHeavy, LDQ, MADRS and SCL-90-R-dep) were based on change scores between baseline and 12 weeks.

Two regression models were found which reflected the different patterns of associations between client and therapist alliance. The first model was therapist WAI total score, attendance at the 12 week session, baseline score on the RCQ-TV and the SCQ; the second model consisted of client WAI total score and years in education.

#### 8.7.3.1 Therapist alliance and predictors of outcome

Stepwise regression analyses, including the therapist WAI, resulted in a significant prediction model for both 12 week mood outcomes (MADRS and SCL-90-R-dep) and two of the four drinking-related outcomes (PDA and LDQ).

With PDA and LDQ the prediction model contained one of the four predictor variables, attendance at the 12 week session. Attendance at the 12 week session accounted for 3% of variance within the PDA 12 week change score and in the LDQ 12 week change score accounted for 30%.

No variables entered into stepwise regression analyses with therapist alliance were found to be significant predictors of outcome of either DDD or PDHeavy.

In the case of MADRS outcomes the prediction model contained one of the four predictor variables, with the change in MADRS score predicted by therapist alliance. The model accounted for approximately 6% of variance. Attendance at the 12 week session, SCQ and RCQ-TV were excluded.
With SCL-90-R-dep outcomes the prediction model contained one of the four predictor variables, with change in SCL-90-R-dep score predicted by attendance at 12 week session. The model accounted for approximately 18% of variance. Therapist alliance, SCQ and RCQ-TV were excluded.

### Table 35: Stepwise regression analysis identifying predictors of drinking and mood outcomes

<table>
<thead>
<tr>
<th>Dependent measure: 12 week change scores</th>
<th>Model</th>
<th>b</th>
<th>SE-b</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>PDA</td>
<td>Constant</td>
<td>.271</td>
<td>.065</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>12 week session</td>
<td>.149</td>
<td>.065</td>
<td>.043</td>
</tr>
<tr>
<td>LDQ</td>
<td>Constant</td>
<td>-1.208</td>
<td>1.453</td>
<td>.407</td>
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<tr>
<td></td>
<td>12 week session</td>
<td>-11.701</td>
<td>1.619</td>
<td>.000</td>
</tr>
<tr>
<td>MADRS</td>
<td>Constant</td>
<td>7.910</td>
<td>9.881</td>
<td>.425</td>
</tr>
<tr>
<td></td>
<td>WAI-T</td>
<td>-4.739</td>
<td>1.731</td>
<td>.007</td>
</tr>
<tr>
<td>SCL-90-R-dep</td>
<td>Constant</td>
<td>.023</td>
<td>.186</td>
<td>.900</td>
</tr>
<tr>
<td></td>
<td>12 week session</td>
<td>-1.049</td>
<td>.207</td>
<td>.000</td>
</tr>
</tbody>
</table>

### 8.7.3.2 Client alliance and predictors of outcome

Initial investigations indicated that the number of years clients had received education or training was predictive of client-rated alliance. However, further examination of this relationship indicated that this finding was more likely due to an outlier so regression analysis was discontinued.

### 8.8 Summary

In summary, client-rated alliance was significantly higher than therapist-rated alliance (hypothesis one). Contrary to expectations, therapist and client ratings were not significantly associated with each other.

Demographic and treatment history variables were not significantly related either with client- or therapist-rated alliance (hypotheses two and three). Higher therapist-rated alliance was significantly associated with client’s being more motivated to change their drinking (RCQ-
TV) at baseline, whereas client-rated alliance was not (hypothesis four). Therapist- and client-rated alliance were not significantly related to a client’s self-efficacy (SCQ) at baseline (hypothesis four).

Overall, early measures (3 weeks) of alliance were not associated with better drinking outcomes (12 week outcomes nor change scores) (hypothesis five). In contrast, early measures of therapist alliance were significantly related to mood outcomes, that is the greater the therapist alliance, the lower the level of depressive symptoms at 12 weeks (MADRS and SCL-90-R-depression subscale) and the greater the therapist alliance, the greater the reduction in depressive symptoms between baseline and 12 weeks (MADRS only) (hypothesis six).

Analysis of subscales resulted in a number of significant findings. The therapists’ task subscale was significantly associated with 12 week drinking outcomes and changes in drinking between baseline and 12 weeks. The therapists’ task subscale was also significantly associated with mood outcomes at 12 weeks and changes in mood between baseline and 12 weeks, as was the therapists’ goal subscale. As such higher subscale scores were associated with improved outcomes.

Therapist alliance was significantly related to treatment retention, the higher the alliance, the more likely clients were to complete treatment, but not to the number of sessions attended (hypothesis seven) or medication adherence (hypothesis eight).

Controlling for early symptom change (0-3 weeks) did not alter the significance of the associations between therapist alliance and mood outcomes, whereas the strength of associations with drinking outcomes was reduced for PDA and DDD change scores. Conversely, the association between the therapist alliance and 12 week PDA became significant, the higher the alliance, the higher the 12 week PDA, when previously this had not been the case (hypothesis nine).

Neither motivation nor self-efficacy had a significant moderating effect on the alliance-outcome relationship (hypothesis ten).

Therapist alliance was predictive of mood related outcomes but not of drinking outcomes (hypothesis eleven).
CHAPTER NINE: TEAM QUALITATIVE RESULTS

This chapter presents the results of the qualitative research component of the TEAM study. Thematic analysis was employed as the principal analytic strategy. Therefore in presenting results key themes and subthemes are described and excerpts from the dialogue between the interviewer and client are chosen to exemplify them. Prior to the presentation of themes a brief description of the clients and therapists included in this aspect of the study is provided.

There were 49 codes that were ascribed to data chunks and several iterations of the categorisation of codes were produced during the analysis (refer Appendix 6). Two overarching themes repeatedly emerged, the first, the TEAM experience. This included the therapeutic relationship and the impact of receiving treatment within a research study. The second concerned factors which had impacted on mood or drinking. Results are presented sequentially under three themes: the therapeutic relationship, factors that impacted on mood or drinking and the impact of the research. Whilst the first and third themes are encompassed within one overarching theme (TEAM experience) they are presented separately and in this distinct order. This is because the first two themes in the sequence closely mirror how the quantitative results are presented: findings regarding alliance followed by findings regarding the relationship between alliance and outcome.

The third theme, the impact of the research, is distinct from the quantitative research hypotheses but nonetheless has relevance to methodological issues pertaining to the impact research design has on findings.

9.1 Sample description

9.1.1 Clients

Nine females and three males were interviewed. Of these, nine were from Christchurch and three from Auckland. The predominance of clients from these two sites was consistent with where most recruitment had occurred at this stage of the study. Ages ranged from 28 to 56 years, with a mean age of 41.8 years, similar to clients’ mean age and range in the TEAM quantitative investigation.
9.1.1.1 Treatment history

In capturing the client’s perspective it was important to be aware of their treatment history to elucidate the lens through which they were viewing the current treatment. Previous treatment experience varied. Eight of the twelve had had previous treatment experience for their alcohol or mood issues. This included general counselling, pharmacotherapy (primarily antidepressants) and attendance at a residential AOD treatment programme. Several clients had also received previous treatment for other mental health issues, e.g. eating disorders, chronic pain.

Comments indicated that prior treatment experiences were part of the yardstick against which some clients evaluated their current treatment experience.

“Had been through Hanmer [residential treatment programme] and a lot of other counselling I went through, the Hanmer programme about 2003, so thought [TEAM] would be more intense” (female, client #5).

For other clients, although having had previous treatment, it was not evident through their comments that their evaluation was based on direct comparison with previous treatment. For these clients, and for those who had had no previous treatment, no common elements were identified in terms of how they evaluated the current treatment beyond those identified in their reflections on the therapeutic relationship and what had occurred during treatment. These are encompassed in the overall presentation of findings.

In summary, previous experience varied amongst clients, with two-thirds having had prior treatment. For some this previous experience influenced how they viewed the TEAM treatment.

9.1.2 Therapists

Interviews captured the participant’s experience of therapy with 7 of the 18 TEAM therapists. Three therapists were female and four were male. Four of these seven had only one client who was interviewed, two therapists had two clients who were interviewed and one therapist had three clients interviewed. Three clients had seen more than one TEAM therapist, mainly due to their therapist being on leave or leaving the study. In one instance a client requested a change of therapist during the baseline assessment process.
Therapists’ ages ranged from 35 to 61 years of age, with an average age of 48 years. Mean years of experience in working in the AOD field ranged from 12 to 30 years. As such the age and range of experience were similar to the larger group of therapists within the TEAM study.

Several clients saw more than one TEAM therapist throughout the course of the study. For some, this factor influenced the lens through which they viewed their TEAM experience.

“... well I have got nothing really to compare, although if I had to compare there was another woman that I saw [in the TEAM study] ... Now I did, I think respond better to Y, just the few times I had Y I just came away feeling um, I just felt that she knew me a little bit better, she knew where I was coming from a little bit better” (female, client #4).

Thus, for some clients the comparison of therapists within the TEAM study was commented on when reflecting on their experience. Where relevant these comments are included in the presentation of results.

### 9.2 The therapeutic relationship

This theme depicts the way in which clients talked about their relationship with their therapist. Critically, throughout the interview, clients deconstructed the relationship into named qualities and features that were or were not present. In doing so they emphasised principal components within the concept of a therapeutic relationship from a client’s perspective. Three common subthemes emerged, the therapeutic bond and engagement, advocacy and competence. Clients discussed these subthemes in conjunction with the relationship in general, but more often in reference to the therapist’s contribution to the relationship. While emerging as distinct elements, they were also interrelated impacting on one another over the course of the relationship.

#### 9.2.1 Therapeutic bond and engagement

The bond or connection with their therapist was a key feature clients named when reflecting on this relationship and was tied closely to the clients’ sense of therapeutic engagement. Given the interrelationship between these two features they are presented as one subtheme. Some distinctions are made within this subtheme to add clarity. This subtheme was
encapsulated in terms which referred to the level of comfort and the sense of connection and involvement clients felt with their therapist. These developed at different rates amongst clients.

Words that referred to the bond and engagement were used in two different ways. The current subtheme of therapeutic bond and engagement relates to the first way in which these words were used, that is, to describe the relationship with their therapist. The second way they were used was in relation to the process of change, used to identify factors involved in changes that occurred with their drinking or mood. This will be discussed later in section 9.3.1.1.

9.2.1.1 Therapeutic bond

Words used to describe the sense of bond or connection included those that applied to how the relationship felt such as comfortable, having rapport with the therapist; and those that related to the level of closeness that this relationship inspired in the client, such as being able to be honest and one that inspired hope.

Common terms used to describe the therapist included those considered integral for a positive therapeutic bond. Some were analogous to the core components of the Rogerian client-centred approach (Rogers, 1959). These included trustworthy, sincere, non-judgemental, open, comfortable, caring, supportive, positive, interested, good listener, warm, friendly, sense of humour, able to relate to people, easy to talk to.

The following quotation demonstrates how these words were used by a client when describing her therapist,

“Umm, he was very open and honest, personable, easy to talk to, dedicated, open and up front” (female, client # 11).

9.2.1.2 Therapeutic engagement

The way the client described the bond was entwined with their sense of therapeutic engagement, that is “…the degree to which someone feels like a comfortable and active participant in the consultation” (Miller & Rollnick, 2013, p. 37). Engagement as a concept is distinct from bond in that it defines the relationship with regards to the level of involvement in therapy. It is synonymous with collaboration in terms of the tasks and goals or business of
therapy. This is illustrated in the following quote from a client when describing the relationship whereby it is apparent that the feelings about the relationship impact on their level of openness and sense of engagement.

“I felt very comfortable, I just felt really at ease with her, really comfortable so I could talk to her about anything” (female, client #6).

9.2.1.3 Rate at which they developed

How quickly the bond developed differed and was linked to the client’s sense of therapeutic engagement and the functioning of the client-therapist dyad in terms of the therapeutic tasks. For many this developed relatively quickly.

“Right from very early on, I mean obviously when you are getting to know each other in a first session or so, but no, right from the opening minute I felt very comfortable with him and then, you know, that naturally grew” (male, client #9).

For others it took longer.

“It built up over time probably the first three appointments. I was really apprehensive the first time I went in actually because I didn’t know what to expect” (female, client #1).

Irrespective of how quickly this occurred most felt that the bond and engagement continued to change over time, indicating the dynamic nature of this aspect of the relationship.

“Everytime I went and had a chat to her it got easier, I opened up more” (female, client #3).

9.2.2 Advocacy

Advocacy was the second subtheme that emerged as clients described the therapeutic relationship. This was related to clients’ perceptions that the therapist was someone who would undertake tasks for or with them. Expressions of feeling supported and a sense of not having to do it all on their own highlighted the role advocacy played in creating a sense of collaboration.
“He really does go above and beyond to make sure you are safe at all times and that you are actually doing the best thing for your sobriety … little things like coming along to a doctor's appointment with me when he didn't need to” (female, client # 11).

Appreciation was also expressed for tasks the therapists did for them, as opposed to with them. This highlighted that for clients a sense of collaboration occurred through sharing tasks to achieve the client’s overall goals, and did not require both parties to have a role in the completion of all the tasks undertaken as part of therapy.

“I mean he actually contacted the social detox place on my behalf … amazing” (male, client # 8).

The act of therapists advocating for clients was expressed in a way that suggested it evoked an emotional response for some clients and impacted on the therapeutic climate, and most likely their bond with their therapist. This was perhaps because the therapist was seen to understand and work towards meeting their needs. This is illustrated by responses that show that advocacy had resulted in positive emotional response, such as relief.

“Very supportive, do anything for me sort of person which is what you want when going through things like that cos there are certain people that you feel that you can’t talk to and X would quite happily say things like would you like me to contact them for you sort of thing, it was a bit of a relief” (female, client # 12).

However, therapists playing the role of advocate can also have a downside if clients think this role is not being properly fulfilled,

“I want to have another 3 months on naltrexone and I need to go along to see somebody to, you know, to have that prescription put in place. And X said to me that, umm, when I came in when we saw each other next you know we would sort out something and discuss whether that would be appropriate for, um, for the dose to be changed given my weight and I don’t know whether he has pursued that with the person. One of the things I meant to ask him was have you discussed my case with the doctor, does he know what you think about it, or am I supposed to, you know there’s just you know… there’s … I have found that frustrating” (female, client # 5).
9.2.3 Therapist competence

Therapist competence was the third key subtheme that emerged regarding their relationship with their therapist. Clients acknowledged therapists’ knowledge, skills and abilities in treatment delivery and how to access services, as well as their theoretical knowledge about substance use and depression. Clients also appreciated how therapist competence positively assisted in the therapeutic process,

“… a very gifted person who is able to elicit information, feelings and observations from the client or the patient in a very non-intrusive way and he is highly skilled in incorporating information, experiences and things into his assessment advice and guidance coming back ... he is a very accomplished listener ... he’s very knowledgeable, he knows his areas” (male, client # 9).

9.2.4 Recovery background

Although it was not a central theme, therapists’ personal history of addiction was commented on by a small number of clients when reflecting on their relationship with their therapist. It is common in the AOD field for therapists to have had a personal history of the pathology that is the same as that of their client. NZ workforce data shows that one third identify as being in recovery from addiction (Adamson, Deering, Schroder, Townshend, & Ditchburn, 2009). The role of this attribute was alluded to both in terms of clients’ evaluation of the therapists’ competence and in the impact on the therapeutic bond, i.e. feeling understood.

“No I found him quite good cos he actually knew what I was dealing with cos he, he’s been, oh I can’t remember for how long sober he’s been but he, you know, was an alcoholic so I suppose he still is, so he understood when I said things he’d say ah yeah, yeah, you know ... some people just don’t kind of get it how it’s like being, ahh I suppose you could say sometimes being possessed you know, yeah he could understand, yeah” (male, client # 2).

Although this client initially named this as a positive attribute in the relationship, he also recognised that this was not sufficient in terms of his ability to connect on an individual level.

“Well to a lesser extent I mean he could understand my situation [was in recovery] ... but you know but he still doesn’t know me … as in he was still
Another client, who was initially challenged by her therapist’s perceived lack of personal experience, re-evaluated this throughout the therapy as she recognised this to be less important in terms of the therapist understanding her.

“I mean initially I wondered if he was getting my point because he’s obviously someone who doesn’t drink … but he understands addiction, sometimes you can without actually having experienced it” (female, client # 1).

In summary, when describing their relationship with their therapist three main components of a therapeutic relationship emerged. These included the therapeutic bond and engagement, advocacy and the therapists’ level of competence. A small number of clients commented on the impact the therapist’s personal history of recovery had in therapy. When reflecting on the therapeutic relationship the frame of reference tended to most often be that of the therapist, rather than the interaction between the dyad or the client.

9.3 Factors which impacted on mood and drinking

As part of a study that focused upon treatment outcome a key area of interest was capturing what clients perceived had made a difference to their drinking or mood. Thus an important question in the qualitative interviews was specifically about this. It was hoped that gathering this data would illuminate, from the clients’ perspective, the role the therapeutic relationship had upon changes that may or may not have occurred.

In describing what made a difference to their mood or drinking clients named components delivered as part of the TEAM study and also factors beyond the TEAM treatment study. As such results will be presented under these two overarching headings; within treatment factors, which also includes those factors clients deemed as potentially important but missing from treatment; and beyond TEAM treatment factors.
9.3.1 Within TEAM treatment factors

Factors associated with the TEAM treatment that clients perceived made a difference to their drinking or mood were grouped in three areas: the qualities of the therapist or therapeutic relationship; actions that occurred as part of the treatment; and the role of pharmacotherapy.

9.3.1.1 Therapeutic qualities

Therapeutic qualities can pertain to the therapist, the relationship between the therapist and the client, or the therapeutic process of change. Such qualities may not be mutually exclusive with considerable overlap possible. At this stage rather than make a potentially arbitrary distinction regarding which area the quality relates to the term “therapeutic qualities” aims to encapsulate all three. At times, if appropriate, the distinction is made.

As has been stated these qualities were used in a descriptive sense by clients when talking about their relationship with their therapist. Some of these qualities were also identified as specific factors which clients felt played a role in changes that occurred with their mood or drinking. It is in this sense that they are now discussed.

In the main, therapeutic qualities were found to be consistent with those outlined in the previous section. This was particularly so with the clients’ construct of the therapeutic relationship in terms of the therapeutic bond and engagement. This aspect of the construct mapped closely with Rogerian client-centred concepts. These concepts also underpin other therapeutic modalities or practice commonly employed in AOD treatment, e.g. motivational interviewing. The importance of these qualities was emphasised in the therapists training for the TEAM study training and CCM guidelines, in conjunction with engaging and retaining the client in treatment. Also, they are generally promoted in NZ AOD service delivery and training programmes (Todd, 2010).

These qualities impacted on change by enhancing clients’ therapeutic engagement and their ability to collaborate with the required therapeutic tasks. This was highlighted by a client when responding to the question of what assisted with change.

“Yeah, just X’s really supportive, and um caring and that, so X’s really good actually, just made it easy for me to, you know, do this, to do things differently” (female, client #1).
Conversely, others expressed that the absence of, or a poor quality of, therapeutic bond impacted on their engagement in therapy and their ability to “open up” had been severely affected. This was identified as a factor that hindered change as can be seen in the following quotation.

“I don’t know if it was just the fact that we didn’t gel or whether it was just a few comments that she made that I didn’t agree with and from then on I had the idea that she just wasn’t gonna really help. I mean I am sure she is an excellent counsellor but probably just not for me, so I think I got a bit more defensive and closed up and I just sort of came to the conclusion that I would be there for the study not for me really … and you know, that might be why things didn’t change greatly” (female, client # 10).

Some clients named their specific therapist as pivotal to the changes they had made.

“… probably a combination but X definitely without having her I wouldn’t have got where I was” (female, client # 6).

While for some, the specific therapist was not vital for some, they fulfilled a role in a less personal sense acting as a conduit through which treatment was delivered,

“… he was never a counsellor to me, he was just a person who was taking me through the study and who I went to meet and have a chat and fill out paperwork and go through the issues, but not a counsellor no, … I don’t know if it could have been him or it could have been anybody” (female, client # 1).

9.3.1.2 Work of therapy: Actions

Clients named the way in which tasks undertaken during the session had changed their drinking or mood. Change factors associated with the work of therapy can be divided into two key areas, changes in thinking and changes in behaviour. They are presented under these headings.

9.3.1.2.1 Changed thinking

Changed thinking was a major theme in terms of what clients associated with changes in their drinking or mood. Within this theme there were several subthemes. These were increased
insight and self-awareness, which included the link between alcohol use and depression, and cognitive restructuring and self-efficacy.

9.3.1.2.2 **Changed thinking: Insight and self-awareness**

Clients articulated that the increased insight and self-awareness which resulted from the TEAM treatment sessions was linked with change. This related to the opportunity to explore specific drinking or mood related problems and broad concepts, such as self and life. This is illustrated by the following quotation from a client.

“Well it brought a whole lot of stuff to the surface and it made me see things that I had never thought about I suppose, it was an eye opener for me as well, made me a lot wiser, explored those things you suppress through the alcohol I suppose, just hidden emotions and feelings and dealing with things on a daily basis, um, not hiding behind the bottle, so learning how to do that” (female, client # 12).

These changes were shown to operate in two ways: firstly, directly on their drinking behaviour or mood and secondly, indirectly, through positive changes in their behaviour and life more broadly. These in turn impacted on their mood or drinking such as the ability to cope with stress and emotions.

“… stared into myself, highlighted a few things and that helps you to reflect on how you are viewing the situation and how you’re coping with things and what you can do differently” (female, client # 1).

9.3.1.2.2.1 **Link between alcohol use and depression**

The link clients made between alcohol use and their mood is an important subtheme within the theme of changed thinking: self-awareness & insight. For several people the connection between the two emerged only during the TEAM study.

“Well at the end of the study I realised that drinking was actually assisting my depression so what I thought was actually making me feel better did, did the opposite so there was no point of being on antidepressants cos they weren’t working cos I was drinking. I hadn’t, I hadn’t really put two and two together till the end of the study and then I went oh god, ok” (female, client # 1).
This subtheme included clients who stated that despite having had previous treatment, e.g. medication, this connection had not been previously mentioned or explored or not enough that they recalled it as having been given any significance. For others, whilst they had some prior awareness of this association, further exploration and the changes experienced through the reduction in drinking or improved mood during the TEAM study reinforced and strengthened how the two were associated. This is illustrated in following quote,

“I think I knew myself that the alcohol was causing the depression issues at the time, anxiety issues at the time, so having stopped of course I was gonna feel better. Yeah, well, I did feel pretty awesome” (male, client # 8).

The memory of this was drawn upon by clients when they used recollections, such as how their mood was better when they weren’t drinking, to assist in maintaining positive changes. In addition, those who had relapsed had used these recollections to help motivate them to reduce their drinking again.

“I wasn’t drinking and I know that doesn’t help your mood. I was feeling better without um drinking and I was in a better frame of mind, I could see light at the end of the tunnel” (female, client # 7).

More often this relationship was expressed causally in terms of the impact alcohol had on mood as indicated in the above comments. In contrast, this client spoke about the reciprocity when asked if she thought her mood and alcohol use were related, she said:

“Oh yes, when I drink less my mood is better and takes the edge off, that edge off wanting to drink to hide from my feelings [by using alcohol], so it is noticeable with the drop off if in self-loathing and guilt and that whole spiral” (female, client # 5).

9.3.1.2.3 Changed thinking: Cognitive restructuring

In terms of changed thinking some clients attributed changes to tasks or strategies the therapist had suggested to alter cognitive processes (thinking style/schema). They were able to recall these and many still drew on specific tasks or strategies to assist them when struggling to maintain or action changes.
Clients described explicit guidance analogous to tasks used in relapse prevention planning and cognitive behavioural approaches, such as thought stopping and connecting one’s thinking with a pre-determined action plan.

“… gave me other things to focus on, the big picture all along … it did change my thinking … yeah she told me that as soon as a thought came into my head I would have to get it out and stop, you know, thinking about it and planning everything, just to totally change my thoughts” (female, client # 6).

When clients discussed changes in their thinking they appeared to re-engage both with thinking processes that had occurred in the session, which had drawn on a new tool or strategy, and also with the content that had emerged when undertaking the tasks. This is illustrated by one client who talked about the decisional balancing in the exploration of pros and cons, a technique traditionally employed in motivational interviewing and in the relapse prevention model.

“I remember those, those times, umm, the, the cons are now the pros for me so, yeah I have done a 360 with a lot of different things I have discussed with X” (female, client # 12).

For others the work of therapy had changed their thinking at different levels, both in reassessing the role alcohol plays in a client’s life and at more abstract levels by looking at the wider role alcohol has in society.

“Sometimes I access sort of the concepts that we developed with X, what is a wise response to this situation, the diminution of the status of alcohol, why does one have to drink to enjoy this occasion?” (male, client # 9).

Also evident was the identification and emphasis on strengths, as opposed to deficits, a technique associated with the Strengths model (Rapp & Goscha, 2006).

“… an awareness of one’s ability to access one’s personal resources … looking at your gifts, your personality, your contribution to the world and to the little world that you live in, household and work, the bigger world via being healthy and more able to do that” (female, client # 4).
9.3.1.2.4  Changed thinking: Self-efficacy

Another way in which changed thinking was linked to positive changes in drinking or mood was the client’s response both to treatment sessions and also to the therapist. Some commented that they felt more positive, inspired or hopeful. Therapeutically this can be considered part of the development of self-efficacy, an aim of many therapeutic models in the field of addiction and behaviour change, for example, in motivational interviewing (Miller & Rollnick, 1991).

“I was pleased with what I had achieved, I was feeling better within myself; I could see that it was making me feel better” (female, client # 7).

9.3.1.2.5  Changed behaviours

Clients attributed behavioural changes that assisted with improvements in their mood or drinking to the work that occurred in therapy. As therapeutic actions these could be embraced by relapse prevention techniques and cognitive behavioural approaches, which develop knowledge and skills to alter or interrupt behaviour which may lead to a relapse in mood or drinking. This includes pre-planned behavioural responses when exposed to triggers and changing behaviours, so that triggers are avoided. Examples include setting drinking limits, monitoring drinking and mood and developing strategies for avoiding particular people and places which either act as triggers or are risk factors for relapse. The following quotation relates to the identification of triggers and behavioural cues.

“... just planning a different way home [to avoid going past places she usually purchased alcohol], or not planning to, you know, pop in and buy a bottle on the way home, just to change my routine in a sense” (female, client # 6).

Clients also attributed change to the use of behavioural monitoring techniques,

“Tracking [recording her drinking in a drink diary] is a really important tool, and I learned that, um, through that study, the tracking is really important, and so I’m still tracking, and I seem to be doing a lot better, I don’t seem to have the big overload, just make sure you get in the habit of it every day. If I miss a day, then the next day can go by the wayside and that’s what I stick to and if I have a second one I make myself record it, and then yeah, I’m not going back for a third at all now” (female, client # 4).
Other behavioural changes were more closely associated with managing mood.

“But as I said I’m trying to get some exercise and finding that the um, stress relief that gives me really does help” (female, client # 1).

9.3.1.3 Work of therapy: What was missing

In investigating change, the evaluation of what does and does not work often focuses on what is present. In some respects investigating the role of alliance is about the degree to which it is present or, alternatively, the degree to which it is absent. By the same token a theme emerged as to what some clients perceived was missing for them therapeutically in terms of what they required for change to occur. Overall this related to the intensity of treatment. For some the intensity of support related to the frequency of contact with the therapist.

“… probably for me to have been seeing her twice a week, yeah, for me it would have been more benefit” (female, client # 6).

For others intensity related to the depth of exploration. This may reflect the treatment model and focus of the TEAM study, which was a pharmacotherapy trial with CCM rather than in-depth therapy.

“… probably not quite as in-depth as other treatment avenues I’ve been down, umm, I think, oh, because it was more focused on alcohol-related things umm, we didn’t explore other things in great depth, like life experiences and things like that” (female, client #10).

One client who had the opportunity to compare therapists in the TEAM study expressed concern that despite the actions or work of therapy being present the absence of the emotional connection or bond influenced how she responded during the treatment sessions.

“I had X because Y was away … and I really clicked, well I felt I clicked with her a bit better. I mean Y gave me all the answers, she was consistent, she, you know she did everything she said she was going to do … um so follow through was fine but I did, I think respond better to X … it would have been good if I carried on [with X], I don’t, I don’t know maybe if I’d have had umm I might have [done better]” (female, client # 4).
9.3.1.4 Pharmacotherapy: The role of medication

Principally the TEAM study was a pharmacotherapy trial. As such, it is unsurprising medication was a key factor which clients associated with improvements in their mood or drinking. The centrality of the medication varied greatly. For some it was a crucial “magic wand” or “pill”.

“Got on pills and good as gold” (female, client # 3).
“I just like pills, I am just a long term antidepressant person” (female, client # 4).

In contrast, others regarded medication as only one in a combination of factors that aided change. One person made an analogy to a football team i.e., it is not one person who scores the goal, rather it is the result of the action of many players.

For other clients medication had a temporary effect on their drinking, lasting for the course of the medication or for part of the course.

“Oh the naltrexone, yeah, no I thought it was good actually it did make a difference. I think the effects wore off after a while” (male, client # 8).

Some thought that medication played no role.

“… not a direct effect I think. I think it was probably more the … you know, cos if I did drink it still, I still felt the same way I normally would so I don’t, I don’t think the naltrexone was all that effective” (female, client #10).

In summary, clients named a range of factors related to the TEAM treatment they considered had impacted on their mood or drinking outcomes. These included therapeutic qualities of the therapist and actions that had occurred as a result of the collaborative work undertaken in therapy, e.g. changed thinking or behaviour, and pharmacotherapy. Clients also named components they considered potentially helpful, yet were absent. In contrast to the theme of the therapeutic relationship, the role that the client played and the collaborative nature of therapeutic work was more evident when clients reflected on changes in their mood and drinking.
9.3.2 Beyond TEAM treatment factors

Just as factors beyond the individual and treatment session are associated with the aetiology of an individual’s mood or drinking problems, factors beyond what occurred in the treatment programme can effect change. In the current study the non-treatment factors clients voiced as associated with change fell into two categories: social supports and other treatments, beyond the TEAM study.

9.3.2.1 Social supports

The role that social support networks play in treatment outcome is widely known (Miller, Andrews, Wilbourne, & Bennett, 1998). In the current study clients frequently noted family and friends as being an important, if not the most important factor in changes they had made. This reinforces the crucial role of the social environment in the initiation and maintenance of positive change.

“... people I spent most of my time with in social situations and things like that, but um they’ve all been pretty marvellous really so I was pretty lucky, so all supported me and mm I’d say they’ve been pretty patient” (female, client # 12).

“I think probably the support of my family as well as, you know, having X as a sounding board was definitely really helpful, um, but I think probably mostly the family thing really” (male, client # 8).

9.3.2.2 Other treatments

Clients identified a range of alternative treatments they believed had played a role in changing their mood or drinking. How central these were to change, or if they worked alongside TEAM treatment factors varied. The quotations below illustrate the wide-ranging types of interventions that clients were involved in and named as being important to changes they had made.

The TEAM CCM protocols encouraged participation in self-help groups and these were identified as a factor that assisted with changes in drinking.

“Um well my drinking, I mean, a thing that has made the difference most is just being offered those other options outside of the actual TEAM study, like
going to AA meetings, knowing that there are people out there like you, it’s not an illness you have to go through on your own, the AA prayer” (female, client # 11).

Clients commented that during the TEAM study they re-engaged with previous intervention strategies they had used and that these played a role in changes they made.

“I learned something called autogenics many, many, many years ago and that was one of the things that um, ah or breathing techniques was one of the things that I did do during that study, and I mean I did find that good and I enjoyed it but it was nothing I hadn’t, I didn’t know already. So I know that if I do my autogenics every day without fail then I’m fine, absolutely fine” (female, client # 4).

Clients also stated that other formal and professionally delivered treatment interventions they had engaged with since commencing the TEAM study had played a major role in changes in their drinking and mood.

“And I just want to say I went to a hypnotherapist and it has changed me, completely” (male, client # 2).

“… it’s actually called networking, it’s a spinal um realignment therapy …um, and that’s been fantastic, it’s also, but it’s also to do with you as a whole person and umm you end up being very tearful a lot of the time even though there is no words shared and they just touch your body (laughs). It’s amazing actually” (female, client # 5).

As can be seen, these alternative interventions covered a wide spectrum from those traditionally associated with AOD treatment, such as AA, to those used more generically, e.g. hypnotherapy and autogenics.

9.3.2.3 Impact beyond treatment goals

Before summarising those factors clients identified as influencing treatment outcome it should be acknowledged that, just as things beyond treatment impacted on change in drinking and mood, it was also voiced that treatment had an impact in areas beyond mood and drinking. There were improvements in overall health, particularly regarding exercise and diet. Clients
said the TEAM study prompted them to reflect more holistically, whether it be about diet, exercise, work or relationships.

“So that’s been good, and we haven’t been drinking, and we’ve been eating much better and enjoying that. So it’s interesting, but I’ve lost weight umm, exercise more, play guitar and am more efficient in home matters and, ah, work matters” (male, client # 9).

“I have been thinking of a bit about (pause) um, it just things like (pause) umm, I, you know, why do I, why do I come home and, you know, reach for the bottle and it’s because I’m just unhappy in my work place so I have started to sort of pursuing either a new job or like I say, starting something new, to keep me occupied” (female, client # 1).

9.4 Impact of research

The qualitative interviews sought to explore the impact of the research on the client’s overall experience of treatment, including outcomes. Two themes emerged from this discussion, firstly, the client’s sense of altruism as a motivating factor, and secondly the impact of the questionnaires.

9.4.1 Altruism

For many clients the fact that the TEAM treatment was part of a research study connected with their altruistic tendencies. As such, their involvement with the TEAM investigation was prompted not only by changes they sought to make with their own drinking and mood, but because they believed the TEAM research might generate knowledge which would assist others who experienced similar issues. Thus, their involvement could result in a positive impact for others beyond their own life. This is illustrated in the quotation below.

“Um, oh it was good to, good to take part, ummm, because I’m a nurse so, so I find the whole process quite interesting, I’ve always been interested in research so, and it felt good to sort of contribute a wee bit as well to future research. I guess the results might make a difference to future treatment programmes” (female, client # 10).
Altruism clearly had a motivating role in clients seeking treatment. They named the fact that there was a research component which could provide knowledge to help others as something that prompted them to contact the TEAM study about treatment for their problems with their mood and drinking.

“Ah, the TEAM treatment ..., it’s good cos if it was gonna help anybody else ... yeah it was one of the things that actually attracted me to it” (female, client #3).

Similarly, once involved in the TEAM study, altruism played a role in the motivating clients during treatment.

“Yes probably 20% of my motivation during the study would have been because it was research” (male, client #9).

### 9.4.2 Questionnaires

The questionnaires themselves are a key theme in relation to the research component of treatment. As detailed in the section on the TEAM method there was a comprehensive battery of questionnaires that were completed at baseline (see section 7.4.4), with many being repeated throughout treatment. For some the questionnaires added a positive component to treatment, expanding and guiding self-reflection and thus prompting responses and insight that may not otherwise have occurred.

“I mean question wise they were always pertinent, to the point of all the information that was gathered gave a more rounded picture of where I was at each point when meeting. Quite thorough, um and yeah, you know, throughout all those questions and things I realised that, um the drinking thing is something I can control, um and yeah that, just that self-reflection of the questions that are asked” (female, client # 1).

Other clients said that the questionnaires had a negative impact on their treatment, in that they took precedence over their treatment needs or goals.

“I thought there would be more interaction. I mean I was answering pre-set questions. It quickly dawned on me that this was clearly a research study, not a study set up to assist me. I thought it would be more of an emotive type of, um you know, sort of, you know, how are you feeling, instead rote
questions out of a book, or out of, you know, study questions. It seemed very much confined to a set of goals that the TEAM study wanted to follow and that was the end of it, so that was the way I took it” (female, client # 5).

Other clients stated both perspectives, seeing costs and benefits associated with the questionnaires. In the following quotation a client initially expressed how overwhelming she found the questionnaires while later in the interview she reflected how they were also helpful in extending her thinking about the problems she had sought help for.

“… a few too many questions, a bit mind boggling. Some of the questionnaires were pretty long and a little overwhelming sometimes, especially some of the bigger ones and week this, that and the other sort of thing” [and later commenting] “I mean you know doing that study, just um answering a hundred questions sometimes actually made you think about it” (female, client # 12).

Some clients thought it made no notable difference to the treatment that was being delivered as part of a research study. This is highlighted in the following quote when a client was asked about how research impacted on her treatment.

“It didn’t make any difference to me, you know, or my treatment” (female, client #6).

In summary, it was apparent that the research component of the TEAM study influenced most people, as seen in the themes of altruism and the questionnaires. A client’s altruistic desire to assist others through the knowledge that could be gained through research played a role in motivating them to seek treatment and had a continuing influence on their motivation throughout the treatment period.

In investigating treatment outcomes the TEAM study employed a large battery of mostly standardised assessment tools. For many, the range and volume of questions acted to extend their thinking by prompting consideration of issues that may not otherwise have arisen. However, for some clients the research design, including the questionnaires, was seen as taking precedence over their therapeutic needs.
9.4.3 Summary

In summary, clients deconstructed the relationship with their therapist through descriptions of the various elements present in the therapeutic relationship. Key elements emerged as central to this construct, namely the therapeutic bond and engagement, advocacy and therapist’s competence. For the most part, these elements were associated with the role the therapist played in the relationship, rather than the role of the client or the joint nature of the relationship.

The therapeutic bond was most commonly associated with feelings of comfort and connection. Engagement was associated with the client’s level of involvement with their therapist and collaboration with them in therapeutic tasks. These two elements were closely entwined and both influenced the way in which the relationship developed. For some it developed very quickly, for others more slowly.

While the way in which clients discussed the advocacy component of the relationship focused on the therapist’s role, there was nevertheless a sense that undertaking advocacy tasks enhanced the collaborative nature of the relationship. Therapist competence emerged as a commonly recognised component of the relationship. Competence was discussed only in a positive light.

Factors associated with changes in clients’ mood or drinking included those within the TEAM treatment and those beyond the TEAM treatment. CCM and pharmacotherapy were the core therapeutic treatment components of the TEAM study. Within the TEAM study, treatment factors identified by clients as having made a difference to their drinking or mood are embraced by these components, i.e. therapeutic modalities that were part of the TEAM approach to CCM and the role of medication. More specifically, within-treatment factors included qualities intrinsic to the therapeutic relationship, as well as changes in their thinking and behaviours which could be linked to therapeutic models, techniques and strategies. Medication was also identified as having an impact, this finding unsurprising given that the TEAM study was a pharmacotherapy trial. Potentially helpful components of the therapeutic relationship and treatment which were missing were also identified.

In addition, clients recognised several factors outside of the TEAM treatment, namely social supports and a range of alternative treatment interventions, had played an important part in
changing their drinking or mood. Clients also stated that the TEAM study had a far-reaching and positive impact on their life beyond the specific changes with alcohol and mood.

Outcome research generally has designated variables under investigation and findings are often restricted to these variables. However, client accounts have shown that there are factors, both internal and external to treatment, which they believe to have influenced changes they had made. Whilst the focus on within treatment factors is important in understanding change, it is also important that these factors are contextualised within the client’s wider life, beyond the treatment rooms. Relatedly, considering the wider impact of treatment may be of relevance when evaluating treatment outcomes.

The impact of the research component of the TEAM study did influence most clients, the main themes being altruism and the questionnaires. Client’s altruistic desire to assist others through the knowledge gained from research played a role in motivating them to seek treatment and motivated them during the treatment process.

In investigating treatment outcomes the TEAM study employed a large battery of mostly standardised assessment tools. For many clients the range and volume of questions acted to extend their thinking. However, for some clients the research design, including the questionnaires, were seen as taking precedence over their therapeutic needs.

Lastly, capturing the client’s experience of the TEAM treatment in their own words added another dimension to understanding the role the therapeutic relationship plays in changes in alcohol use and mood. This aspect of the study aimed to provide greater depth and to inform on the quantitative findings. As such, pertinent links will be drawn between the qualitative and quantitative results in the TEAM discussion chapter which follows.
CHAPTER TEN: TEAM DISCUSSION

10.1 Introduction

This chapter discusses key findings from the TEAM study and, in keeping with the structure of the investigation, greater emphasis is placed on quantitative findings. In evaluating these findings qualitative results are drawn upon to further elucidate quantitative findings, as are findings from the BTP study. In doing so this chapter provides a synthesis of the overall findings and thereby constitutes a final evaluation of the research undertaken.

The initial part of this chapter discusses findings in relation to the TEAM study hypotheses. The second part makes broader conclusions based on the overall findings. A summary is then given of the limitations and strengths of the TEAM investigation, and also the clinical implications of the findings and areas for future research. Final conclusions follow.

10.2 Study sample

The TEAM study investigated alliance in a treatment population with co-existing alcohol dependence and depression, disorders that have been reported to have a high incidence in clinical populations (Adamson, et al., 2006), as well as in the general population (Oakley-Browne, Wells, & Scott, 2006). In so far as substance use research has been reported to be more inclusive of other pathologies, people experiencing these co-existing disorders are more likely to have been included in substance use as opposed to general psychotherapy research. This is because general psychotherapy research or that focused on specific treatment populations has often excluded people from research if they met the criteria for specific pathologies. The presence of a substance use disorder has frequently been part of the exclusion criteria (Stirman, et al., 2005). To the best of my knowledge this is the first study of alliance to specifically target this co-existing population and adds to existing alliance literature as findings are able to be extended to a commonly occurring subset of people within substance use treatment.

The investigation was conducted with a mostly self-referred community outpatient sample. Demographically, the sample was similar to that of the BTP study and other major studies
which have reported on alliance in an alcohol dependent treatment population. This applied to age, marital status and being mostly white (Connors, et al., 2000) and years in education and employment status (Connors, et al., 2000; Crits-Christoph, et al., 2009). The treatment population in the TEAM study was older, more likely to be female, married or cohabiting and more educated compared to other research with alcohol dependent populations (Crits-Christoph, et al., 2009; UKATT Research Team, 2005) and to research with an AOD clinical population in New Zealand (Adamson, et al., 2006). Demographically, the TEAM study also differed from research focused on illicit drug-using populations who tend to have low levels of paid employment and less stable living circumstances (Meier & Donmall, 2006).

10.3 Hypothesis one: Alliance ratings

Hypothesis one stated: Clients will rate alliance higher than therapists.

In a co-existing treatment population with alcohol dependence and depression, alliance was rated significantly higher by clients than it was by therapists. This finding is consistent with meta-analytic findings from the general psychotherapy field (Shick Tryon, et al., 2007) and with research in the AOD field (Barrowclough, et al., 2010; Dundon, et al., 2008).

Given that substance-using clients tend to have a history of poor family and social relationships (Meier, Barrowclough, et al., 2005a), it would be logical to assume that forming a therapeutic relationship, which alliance is part of, would be more difficult for such a treatment population than it would be for others. Meir et al. (2005) also speculated that the potentially conflictual nature of the relationship in addiction treatment, with the therapist acting to restrict access to the client’s primary reinforcer, may challenge the formation of alliance. Findings from the current study, where clients and therapists rated alliance highly, suggest that this population is able to form good quality therapeutic relationships. This was reiterated in the qualitative interviews, where clients described predominantly positive relationships with their therapists. This conclusion is reinforced by high therapist-rated alliance in the earlier BTP study.

Medication was a core component of the treatment delivered by therapists in the TEAM study. Klein et al. (2003) reported medication management provided by another clinician, as part of the overall treatment, did not have an adverse impact on the alliance with the psychotherapist (Klein, et al., 2003). The TEAM study augments this standpoint as findings
show that strong alliance is possible, particularly in clients’ perception of this alliance, when medication management is conducted by therapists who are also responsible for CCM. It is not yet clear whether this finding is generalizable to client-therapist dyads comprising less experienced therapists.

A surprising finding was that client and therapist ratings were not correlated (see section 8.5.1, Table 22). The absence of this relationship was rigorously examined for possible causes. It was considered most likely to be due to an artefact of the ceiling effect produced by high client ratings, which meant a relationship was unable to be detected. One factor that may have contributed to clients’ high ratings of alliance in the current study was that all therapists were highly experienced. The primary focus of the overall TEAM study was the investigation of different pharmacotherapy regimes. In order to maximise the ability to report on outcomes, a concerted effort was made to ensure that therapists had a high level of expertise to minimise the risk of drop-out and also to enhance medication adherence. It could be argued that clients’ high ratings may simply accurately reflect the high quality relationships within the TEAM investigation. However, this premise does not fully explain clients’ high ratings as to do so one would have expected therapists’ high level of experience to be equally reflected in similarly high therapists’ ratings. This was not found to be the case as therapists rated alliance significantly lower than did clients (see section 8.5.1, Table 21).

The lack of association found between client and therapist alliance ratings in the current study contrasts with findings from meta-analyses, that there is a moderate correlation between clients and therapists alliance ratings (Shick Tryon, et al., 2007). However, these authors noted that the more pronounced difference between client and therapist ratings is larger in substance-using populations than in other clinical populations, when using the WAI, as opposed to other alliance measures, and when treatment consists of fewer than 20 sessions. Given that these factors were all present in the current study, the finding that client and therapist ratings were not related is less surprising than originally thought. Furthermore, current findings are consistent with those reported by Calsyn, et al. (2006), in their study with a substance-using treatment population and, relatedly, with Project MATCH which reported little overlap between variables that predicted therapist versus client alliance ratings (Connors, et al., 2000). This suggests that the way in which factors impact on therapists’ versus clients’ perception of alliance is less uniform in substance-using treatment populations than is the case with other treatment populations.
It was not possible to examine the premise that client and therapist ratings may have become more aligned over time. This premise would not be supported by Meier and Donmall’s (2006) research with illicit drug users which tracked concordance between client and therapist alliance ratings over a three month period. The authors reported that client and therapist ratings were not highly related and that concordance between the two members of the dyad decreased over time. In contrast, previous findings from general psychotherapy reported that they grew closer over time (Meier & Donmall, 2006). It should be noted that the treatment population in Meier and Donmall’s (2006) study was distinctly different from that of the current study. They were users of illicit substances in a residential treatment programme, with high levels of unstable and unfavourable living circumstances and criminal activity. Unlike the TEAM study, these factors suggest a higher proportion of clients may have been coerced into treatment. As such, whether the pattern of alignment of client and therapist alliance ratings with other substance-using treatment populations, such as the alcohol dependent and depressed treatment population in the TEAM study, would follow the pattern reported by Meier and Donmall (2006) or, conversely, that found in general psychotherapy, is an area for future research.

The lack of a significant relationship between client and therapist ratings of alliance may be linked to explanations put forward for the greater discrepancy found between these ratings in substance-using treatment populations compared to other research cohorts. Namely, that the social desirability effect may bias alliance ratings in this client group more so than it does in other client groups (Meier & Donmall, 2006) and that, since treatment in this area is likely to be provided free of charge, clients tend to be more grateful and less critical (Fenton, et al., 2001; Shick Tryon, et al., 2007). In the geographical context of the current study treatment was available free of charge within the public health system for individuals with substance use problems and moderate to severe mental health issues. Given the lack of comparative data of client and therapist ratings of alliance in other NZ treatment populations, it is difficult to examine this argument further. However, it is important to note that the TEAM study was a pharmacotherapy trial offering naltrexone to all participants. At the time of the study naltrexone was not readily available as a treatment for alcohol dependence. It follows that some client’s high ratings of alliance may reflect their gratitude for treatment that would not have otherwise been available.
10.4  **Hypothesis two: Clients’ demographic characteristics and alliance**

_Hypothesis two stated: Clients’ demographic characteristics will not be associated with alliance._

Current findings support the above hypothesis with the complete absence of any significant associations between alliance and demographic variables. This finding is consistent with previous research that has reported a distinct lack of associations in both substance-using (Belding, et al., 1997; Meier, Donmall, et al., 2005b; Öjehagen, et al., 1997) and depressed treatment populations (De Weert-Van Oene, et al., 2001; Klein, et al., 2003; Zuroff & Blatt, 2006).

The distinct absence of any associations contrasts with findings from other substance use treatment research, including the BTP study (refer section 5.4), which reported _some_ associations. Research that contrasts with current findings includes that from the outpatient arm of Project MATCH, a similar cohort, in that both are alcohol dependent, and also in terms of ethnicity (predominantly White), employment status, gender ratios, age and method of recruitment (Connors, et al., 2000). However, while some associations have been reported in research, no specific demographic variable has been found to be consistently associated with alliance. These findings, in conjunction with the paucity of significant associations in the current study, reinforce the conclusion that if any relationship exists between alliance and demographic factors it is at best weak and undoubtedly complex.

10.5  **Hypothesis three: Clients’ baseline symptoms and diagnostic features**

_Hypothesis three stated: Clients’ baseline symptom level and diagnostic features will not be associated with alliance._

Overall, diagnostic factors, baseline symptom severity and treatment history were not associated with alliance. Previous research findings as to whether alliance ratings are predicted by diagnostic factors, including baseline symptom levels, have been mixed (refer section 3.1.1.2). Reasons for these discrepant findings are unclear. The findings in the current
study are congruent with previous reports of no association (Belding, et al., 1997; Klein, et al., 2003; Öjehagen, et al., 1997). The TEAM study findings are also consistent with the BTP study, where baseline drinking profile and diagnostic profile were not associated with alliance.

Most clients in the current study had previously sought treatment for depression, with over three-quarters having been prescribed antidepressant medication and one third also having received other treatment for this disorder. Almost half had had previous treatment for alcohol issues. Detailed examination revealed that therapist ratings on the bond subscale were positively associated with client’s age at the first depressive episode and that therapists rated alliance higher if clients had received inpatient treatment for depression. It is unclear how these findings compare with previous investigations, as none reported on these specific aspects of treatment history. Given the number of associations tested one would expect at least some associations to have occurred by chance. However, it is notable that the associations found were related only to mood. This is consistent with the pattern of findings between alliance and outcomes, in which a stronger association was found with mood outcomes than was found with drinking outcomes.

### 10.6 Hypothesis four: Clients’ psychosocial variables

*Hypothesis four stated: Clients’ psychosocial variables will be associated with alliance.*

As hypothesised clients’ baseline motivation was significantly associated with therapist alliance, however in contrast to expectations, self-efficacy was not. That neither motivation nor self-efficacy was significantly associated with client alliance is, in all probability, a result of the ceiling effect.

The current findings with regard to motivation and therapist alliance are in accordance with previous literature in the AOD field (Connors, et al., 2000; Meier, Donmall, et al., 2005b) and extend this association to a co-existing alcohol dependent and depressed treatment population. Connors reported that motivation was the strongest predictor of alliance in an alcohol dependent population (Connors, et al., 2000). The reason for this association in the current research is presumably similar to that previously suggested, as such, “... that motivated clients may see the therapeutic endeavour in a more positive light and be more invested in the
process of change. This is likely to lead to a better agreement with the counsellor about the goals and tasks to be achieved in treatment” (Meier, Barrowclough, et al., 2005b, p. 508). It is also conceivable that therapists view more highly motivated clients in a more positive light and thus rate alliance more highly. Baseline motivation was also significantly associated with therapists’ high ratings on the bond component of the alliance, that is the “… network of positive personal attachments between therapist and client including mutual trust, acceptance and confidence” (Horvath & Luborsky, 1993, p. 563). Thus the relationship between motivation and the bond subscale is also likely to reflect that therapists like, trust and are more hopeful when clients are more motivated.

The current study found that neither client or therapist alliance was related to client’s self-efficacy at baseline or the end of treatment, nor with change in self-efficacy between baseline and 12 weeks (refer section 8.6.4, Table 26). This lack of an association between alliance and self-efficacy differs from previous research which has found such a relationship (Hartzler, Witkiewitz, Villarroel, & Donovan, 2011; Ritter et al., 2002). Again, the comparative lack of association with client-rated alliance in the current findings is possibly an outcome of the ceiling effect with client ratings. However, differences in measurement may also explain the divergence in findings between the current study and previous investigations. In particular, Hartzler et al.’s (2011) analysis was restricted to the bond subscale of the WAI, and was only found in one of three treatment conditions (Hartzler, et al., 2011), thereby limiting comparability with alliance when reported on as a composite of the three subscale components (bond, task and goal). Ritter et al. (2002), on the other hand, reported on clients’ positive perceptions of the therapeutic relationship, which was not strictly “alliance” (Ritter, et al., 2002). Lastly, neither study reported on the association between therapist-rated alliance and self-efficacy.

Self-efficacy was included in the current analysis as it had been intended to investigate whether this variable had a moderating effect on the alliance-outcome relationship. As outlined in section 3.2.5.1.5, self-efficacy has been reported to be a consistent predictor of drinking outcomes (Adamson, et al., 2009) and significant associations have been reported in previous research between client-rated alliance and self-efficacy. For these reasons, and in light of the impact of the ceiling effect on current findings, the potential for self-efficacy to play a moderating role in the alliance-outcome relationship should not be ruled out. Including this variable in AOD alliance research is still a worthy pursuit.
10.7 Subscale analysis in relation to hypotheses 1 to 4

An advantage of the current investigation was the ability to examine alliance in relation to subscale components that comprise the WAI, thus discriminating those elements considered to comprise the alliance concept. Overall WAI subscales were not associated with demographic, treatment history or diagnostic variables at baseline (with the exception of therapist bond subscale and age at first depressive episode). Furthermore, scores were not significantly higher on any single subscale, nor were client and therapist ratings more strongly aligned on any one subscale compared to any other. Client’s baseline motivation was similarly related with each of the three subscales. On further analysis there was nothing identified that distinguished the bond, task or goal subscale as being more sensitive in discriminating differences between client and therapist-rated alliance, or with regard to their association with client characteristics, than when scores were combined. These findings have some bearing on the question of the relevance of the alliance concept in this population. However, it remains feasible that subscales may have greater relevance when investigating the alliance-outcome relationship, which will be discussed later.

10.8 Summary of hypotheses 1 to 4

Clients rated alliance higher overall than therapists. This shows that they were able to form good relationships despite challenges that have been reported in substance-using treatment populations. Ratings between client and therapists were not related.

Initial investigations found that most client characteristics present at baseline were not associated with either clients’ or therapists’ ratings of alliance. Those not associated included demographic variables, treatment history, baseline symptom severity and diagnostic profile. In the current investigation the lack of association of client demographic characteristics with client ratings of alliance is likely to be an artefact of the ceiling effect in this variable. However this explanation does not apply to the lack of association with therapist ratings. More detailed examination of baseline diagnostic and treatment history variables identified two significant associations with therapist alliance, both in relation to mood.

To conclude, in the absence of any clear pattern of associations, it is prudent to concur with Meier et al. (2005a), that alliance and client demographic characteristics, mood or drinking
treatment history, baseline symptom severity and diagnostic profile are not related. Neither do these factors play a key role in clients’ or therapists’ evaluation of alliance in a co-existing alcohol dependent and depressed treatment population, at least not directly. It still remains possible, however, that an underlying mechanism(s) may influence the relationship between alliance and various client demographic, diagnostic and treatment history characteristics, or that they are related in a more complex way. This complexity may involve the interplay within demographic, symptom severity or other pre-treatment client characteristics and depend on when, how often and by whom alliance is measured, and by what measure. So far, exploration of psychosocial and intrapersonal variables in substance-using populations has not received much attention. Such investigation may yet prove worthwhile in determining client characteristics associated with alliance. Finally, findings of a significant association between alliance and motivation are notable, confirming motivation as a strong contender both as a robust predictor of alliance and in treatment outcome.

10.9 Overall change in drinking and mood

Most drinking-related change occurred between baseline and the first timepoint outcome was measured, that is three weeks into treatment. This finding replicated that observed in the BTP investigation which also found most change occurred by the first timepoint (six weeks). The current study suggests that with drinking, not only does most change occur early in treatment, but possibly in the first few weeks. What this means with respect to the alliance-outcome relationship is not clear, particularly with regard to whether alliance is a marker rather than predictor of change. General psychotherapy research has reported that the pattern of development for alliance varies, for some this is a steady state phenomenon, for others it is linear in nature and for others it is a non-linear phenomenon (Kivlighan Jr. & Shaughnessy, 2000; Stiles, et al., 2004). How this applies to substance-using populations has not been reported on to date. If, as found by Meir et al. (2005), alliance is relatively stable in the first three weeks, with most change in drinking outcomes occurring very early in treatment, it would seem prudent to measure alliance earlier (after the first session) to determine its status as a marker or predictor. Furthermore, this very early measure should be included in research with substance-using populations that tracks the development of alliance, using multiple assessment points. This would have the added benefit of capturing those that drop-out of treatment at a very early stage.
Findings on the trajectory of change in mood showed that a large proportion of the improvement occurred during the early stage of treatment. However, in contrast with drinking, there was continued improvement in mood following the three week timepoint. The findings that change occurs at a differential rate for the different disorders is pertinent both to the role which alliance plays in each disorder and to the generalizability of findings from other treatment populations to the alcohol dependent treatment population. The relevance of this finding to the current study will be discussed when overall conclusions are drawn.

10.10  **Hypothesis five: Alliance-drinking outcome**

_Hypothesis five stated: There will be a significant positive relationship between alliance and drinking outcomes._

Alliance, as measured by the WAI total score, was not significantly associated with changes in drinking frequency, intensity or with the level of dependence. To date the relationship between alliance and treatment outcome in substance-using populations has been equivocal (Meier, Barrowclough, et al., 2005a), and meta-analysis has found that the effect size was smaller in the substance-using treatment subset compared to other treatment groups (Horvath, et al., 2011).

The current findings are consistent with research that reports that, within a substance-using treatment population, alliance is not related to substance use outcomes (Barber, et al., 2001; Belding, et al., 1997; Long, et al., 2000; Raytek, et al., 1999). The current study further reveals that, for those with alcohol dependence, co-existing depression does not appear to alter the lack of association between alliance and drinking outcomes. The absence of associations contrasts with research that has reported a significant relationship between alliance and substance use outcomes (Ilgen, McKellar, Moos, & Finney, 2006; Ilgen & Moos, 2005; Najavits & Weiss, 1994; Tunis, Delucchi, Schwartz, Banys, & Sees, 1995), including the BTP study (refer section 5.6). It may be that the alliance-outcome relationship with drinking outcomes was evident at a different timepoint than when measured in the TEAM investigation (3 weeks). It also may have been evident if a different measure of alliance and one rated from an observers’ perspective had been used, as found by Fenton, et al. (2001). It is important to note, however, that in the BTP study, as in most other research, while some significant associations between alliance and drinking outcomes were found, this relationship
has not consistently been reported across all measures of drinking outcomes (e.g. PDA, DDD), nor with all raters (i.e. client, therapist or observer) (Barber, et al., 2000; Bethea, et al., 2008; Connors, et al., 1997; Crits-Christoph, et al., 2009; Dundon, et al., 2008; Fenton, et al., 2001; McCabe & Priebe, 2003).

10.10.1 Drinking outcomes and the components of alliance - bond, task and goal

The primary construct of the WAI is a general factor of working alliance with subscales designed to be aligned with the main components that comprise Bordin’s alliance construct (Horvath & Greenberg, 1989). Caution has been signalled about the use of bivariate analysis of subscale scores (Tracey & Kokotovic, 1989). However, given the lack of associations and questions that remain in the literature about the relevance of alliance in substance-using populations, the alliance-outcome relationship was examined in relation to the WAI subscale components of bond, task and goal in an attempt to better try and understand this issue.

For the therapist task subscale significant associations were consistently found between alliance and drinking outcomes. This association was found to be greater than that between the total alliance score and outcomes (refer section 8.6.4.1, Table 28). It included significant associations between the task subscale and measures of drinking frequency and intensity (PDA, DDD, PDHeavy) and with the level of dependence (LDQ). The pattern of associations showed that higher therapists’ ratings on the task subscale were associated with better drinking outcomes. The goal subscale was also associated with change in DDD, but bond scores were not associated with any drinking measures.

Detailed examination of subscale associations with alliance revealed that, in many instances, the association was weakest with the bond subscale, and was, in fact, negative in some cases. Thus, the association between the bond and task subscale may have had a counterbalancing effect that reduced the overall level of association of the total score with drinking outcomes.
10.11 Hypothesis six: Alliance-mood outcome

Hypothesis six stated: There will be a significant positive relationship between alliance and mood outcomes.

Therapist ratings of alliance were significantly associated with depressive symptoms at the end of treatment and also with change in mood during the course of the study. This relationship with mood at the end of treatment was found when mood was assessed according to a therapist-administered scale (MADRS) and with a client-rated assessment tool (SCL-90-R-depression subscale). On the other hand, with change in mood between baseline and end of treatment, the association was significant only when using the MADRS. The differential findings between the two mood outcome measures may reflect the high degree of sensitivity and precision the MADRS has in measuring change in depressive-related symptoms.

Alliance was not significantly related to remission from clinical depression. Thus it appears that alliance is associated with the change in level of depressive symptomology on a continuous, rather than a categorical, measure of diagnosis.

The TEAM study findings that alliance is significantly associated with mood outcomes are consistent with conclusions from meta-analyses (Horvath, et al., 2011; Martin, et al., 2000) and with findings from research with depressed treatment populations (Barber, et al., 2000; Klein, et al., 2003; Krupnik, et al., 1996; Zuroff & Blatt, 2006). The current results extend previous conclusions by suggesting that, in a population receiving treatment for depression and alcohol dependence, co-existing alcohol dependence does not alter the significantly positive relationship between alliance and improved mood outcomes. This finding is especially important given that previous research with depressed populations has tended to exclude clients with current or recent substance use problems (Crits-Christoph, et al., 2011; Klein, et al., 2003). Thus, it appears equally valid for those with co-existing alcohol dependence and depression, that in terms of enhancing mood “… the provision of a caring and empathic therapeutic relationship that facilitates a strong alliance may be especially important within the context of a disorder (e.g., depression) often characterized by disconnection from other people, loneliness, and low self-esteem” (Crits-Christoph, et al., 2011, p. 275).
10.11.1 Mood outcomes and the components of alliance - bond, task and goal

When examining subscale components a different pattern of associations emerged with mood in comparison with drinking outcomes. Higher therapist ratings on both task and goal subscales were equally related to a number of improved mood outcomes, while the bond again was the subscale which showed the least associations (refer section 8.6.5.1, Table 30). Significant associations were more frequently found between subscales and the MADRS, than they were with the SCL-90-R-dep. Again, this may reflect the greater sensitivity of the MADRS as a continuous measure in capturing changes in symptoms of depression.

10.11.2 Summary and conclusions regarding hypotheses 5 and 6

Current findings support the proposition that alliance, as measured by the WAI, is related to mood outcomes, but is not related to drinking outcomes. However, contrasting findings from other research, including the BTP study, suggest that it may be too soon to make definitive conclusions regarding drinking outcomes. More appropriately, in light of extant evidence, it seems safe to speculate that alliance plays a smaller role in drinking outcomes than it appears to play with regard to outcomes in other pathologies, including mood.

Unravelling the pattern of associations with the various subscales provided the potential to discover if any of the separate components, as measured by the WAI, were more relevant than others, to the alliance-outcome relationship in this treatment population. As discussed this appears to be the case for drinking outcomes, where the task aspect of therapist’s alliance is consistently related to outcome, whereas the other aspects are not. In contrast, for mood the task and goal component appear equally relevant. The more significant association between alliance and mood outcomes is, in part, a consequence of the task and goal subscale components both being significantly relevant, as opposed to only the task with drinking outcomes. Furthermore, it appears that the bond subscale had a more neutral effect on the overall alliance-outcome relationship with mood than it did with drinking outcomes.

The finding that the bond subscale was not related to outcome contrasts with the importance placed in the qualitative findings on therapeutic qualities, e.g. support, comfort, caring, trust, that would be associated with this concept (see section 9.2.1.1). The bond may be important from the clients’ perspective, reflected in the high client ratings of the clients’ alliance.
However, such high ratings, including those on the bond subscale, meant the impact of variance in bond levels was not able to be discriminated with regards to the client alliance-outcome relationship.

In conclusion, it appears the different components of the alliance concept as proposed by Bordin (1979) and then operationalized by Horvath and Greenburg (1989), are not equally relevant to mood or drinking outcomes.

10.12 Hypothesis seven: Retention

_Hypothesis seven stated: Higher alliance measured early in treatment will be associated with better attendance and retention._

In the current study early measures of alliance were significantly associated with treatment completion (attending the week 12 appointment) but not with the number of sessions attended. The current findings support conclusions from the literature that alliance is a significant predictor of retention in substance-using (De Weert-Van Oene, et al., 2001; Knuuttila, Kuusisto, Saarnio, & Nummi, 2012b; Meier, Barrowclough, et al., 2005a) and depressed treatment populations (Arnow, et al., 2007), extending this conclusion to a co-existing alcohol dependent and depressed treatment population. To date findings on the association between attendance and alliance have been mixed. The lack of association in the current study is consistent with that reported by Dundon et al. (2008), yet contrasts with findings from other research, including the BTP study, which have reported session attendance and alliance were related (Fiorentine, Nakashima, & Anglin, 1999).

The finding that alliance was significantly associated with treatment completion, but not with session attendance highlights the importance of clearly defining these terms, as in previous research session attendance had been used as an indicator of retention and engagement. In the TEAM study the decision was made to examine session attendance and retention separately. Retention was defined in relation to treatment completion, i.e. attendance at the 12 week session. This decision was based on the assumption that clients were able complete treatment even though they may not necessarily have attended many sessions.

When considering the association between alliance and retention it should be noted retention was high in the current study. This high retention rate may be because, since the study
investigated different pharmacotherapy regimes, a concerted effort was made to ensure that clients attended the 12 week session which coincided with the end of the pharmacotherapy component of treatment. On this basis care was taken to ensure therapists were all of high quality. This factor may also have contributed to high retention rates. As outlined earlier, a number of demographic characteristics indicated that the study sample had a high level of functioning and stability, factors that may have contributed to the high level of retention. Lastly, as highlighted in qualitative findings, that clients were participating in research may have influenced whether they remained in treatment. These provisos would suggest caution in generalizing the association between alliance and retention to other contexts, particularly to treatment without a research component.

10.13 **Hypothesis eight: Medication adherence**

*Hypothesis eight stated: Higher alliance will be associated with better medication adherence.*

Alliance was not significantly associated with medication adherence. It had been thought that because one of the therapists’ main objectives was to enhance medication adherence, alliance would be related to client’s adherence with medication. The finding that it was not was unexpected and appears inconsistent with Arnow et al.’s (2007) suggestion that the therapeutic relationship may facilitate clients’ ability to tolerate adverse side-effects. This suggestion was based on their findings with depressed clients in which side effects were less often cited as a reason for drop-out in the therapy-plus-medication conditions compared to the medication-only condition (Arnow, et al., 2007). While the authors reported that alliance was associated with drop-out in the therapy-plus-medication conditions, alliance was not assessed in the medication-only condition, nor was the interaction between alliance, adverse events and drop-out examined.
10.14  

Hypothesis nine: The role of early symptom change

_Hypothesis nine stated: Alliance will not be significantly associated with outcome once early symptom change is controlled for._

Whether alliance is a symptom, marker or cause of change in the alliance-outcome relationship continues to be debated. In the current investigation the impact of controlling for early symptom change on alliance varied across outcomes (see section 8.7.1, Tables 33 and 34). With drinking outcomes, in that most change occurred within the first three weeks, controlling for changes in drinking between baseline and three weeks was expected to greatly impact on the pattern of results. Some interesting changes were observed in several instances where the strength of the relationship increased to the extent that alliance became significantly related to PDA at 12 weeks and to change in SCL-90-R-dep between baseline and 12 weeks. In contrast, controlling for early change in mood did not alter the significance of associations between alliance and drinking outcomes.

Research to date, on the impact controlling for prior change in substance use has on the alliance-outcome relationship has been limited. Current findings, that previously nonsignificant associations became significant, were not observed in the BTP study or with clients receiving MMT (Belding, et al., 1997). This may be due to differences in the research design, including treatment populations: alcohol dependent with co-existing depression, alcohol dependent or opiate dependent, as well as the different measures employed to assess alliance. It is also important to note that shifts in association after controlling for early change in the current study were slight. While they resulted in significant associations, the strengths of these associations were modest.

When controlling for early changes in drinking, the impact on subscale associations with alliance varied. The relationship remained significant between the task subscale and the 12 week change in LDQ and with the 12 week outcome with PDA, as did subscale relationships with mood outcomes. Conversely, the relationship between the task subscale and change in DDD, PDHeavy and PDA, and that between the goal subscale and change in DDD were rendered nonsignificant. The relationship between PDA and the goal subscale strengthened so that it became significant. This pattern of findings indicates that for the various aspects of alliance the relationship with drinking outcome may differ depending on drinking pattern and appears most strong with PDA, drinking frequency.
In relation to mood, controlling for early changes in mood scores did not meaningfully alter the relationship with mood outcomes on the MADRS, nor did the significance of relationships vary when controlling for early changes in drinking, or drinking and mood. With the SCL-90-R-depression outcome, controlling for early changes in mood rendered the association with the total WAI and 12 week SCL-90-R-dep score nonsignificant. However when both early change in mood and drinking were controlled for, the relationship was reduced in strength but still remained. However, in the case of the SCL-90-R-depression score, it should be noted that the absence of three week SCL-90-R data meant the corresponding MADRS score had to be used instead.

At the level of subscale analysis controlling for early change in mood had a somewhat greater impact than did controlling for early changes in drinking. Previously significant associations between the task subscale and changes between baseline and end of treatment (MADRS, PDA, PDHeavy) were rendered nonsignificant, as was the association between the goal subscale and the 12 week MADRS score. In contrast, the association between the task and 12 week MADRS and SCL-90-R-dep scores, and that between the goal subscale and change in MADRS between baseline and 12 weeks remained significant.

With regard to alliance, findings in relation to mood reinforce the unwavering trend in research with depressed treatment populations, that alliance predicts outcome even when early symptom improvement is controlled for (Barber, et al., 2000; Klein, et al., 2003; Zuroff & Blatt, 2006). This again extends the significance of these finding to a depressed population with co-existing alcohol dependence. Subscale analysis reveals that the impact of controlling for early changes in mood differed across the various subscales and outcome measures and had a greater impact than did controlling for early changes in drinking.

### 10.14.1 Conclusions regarding hypothesis nine

In conclusion, current findings reveal that controlling for early symptom change impacted differently on the relationship between alliance and mood compared to the relationship between alliance and drinking. The impact of controlling for early symptoms on the strength of the relationship between the separate components of alliance (bond, task and goal) and mood and drinking outcomes also varied across the different components. With regard to mood, the findings support conclusions that the alliance-outcome relationship remains when controlling for early symptom change. For drinking outcomes the relationship appears less robust. Current findings indicate that the alliance relationship is less likely to remains once
early symptom change is controlled for. This would suggest that alliance is more likely to be a marker, than a predictor, of symptom change.

Most other literature has not reported on the subscale level of analysis and, as mentioned previously, some caution is recommended with these results (Tracey & Kokotovic, 1989). In the present investigation it initially appeared that the task subscale was most relevant to both mood and drinking, however, more detailed examination showed that once early symptom change was controlled for, the task subscale was not related to changes in mood or drinking. This suggests the task subscale acts as a marker of change but is unlikely to predict change beyond that evidenced by initial treatment response.

In a number of cases, as with total alliance and drinking outcomes, controlling for early symptom change modified subscale associations in unanticipated ways. For example, controlling for early change in drinking increased the strength of association between 12 week PDA and the goal subscale so that it became significant (see section 8.7.1, Table 33). Given the current assortment of findings future research both into overall alliance and into the subscale components should include a detailed examination of drinking or other substance use profile.

10.15  Hypothesis ten: Moderators of the alliance-outcome relationship

*Hypothesis ten stated: Motivation and self-efficacy will each have a significant moderating effect on the alliance-outcome relationship.*

10.15.1  Motivation

The current investigation found that while motivation was significantly related both to alliance and drinking outcomes it did not have a moderating effect on the alliance-outcome relationship. Unsurprising, perhaps, given the absence of significant associations between alliance and drinking outcomes. Findings did not support those of Project MATCH in which the relationship between therapist alliance and improved outcomes was more pronounced when clients had lower motivation (Ilgen, et al., 2006). The discrepancy in findings may be because significant associations between alliance and drinking outcomes were observed more
frequently in Project MATCH (Connors, et al., 2000) than was the case in the present study. In addition, Ilgen et al. (2006) considered outcomes over a longer term, 6 and 12 months, whereas the current study analysed them at the end of the 12 week treatment.

The relationship between motivation and alliance has primarily been investigated in AOD research. In the current study motivation was assessed in reference to readiness to change drinking. Therefore, the lack of effect motivation had on the relationship between alliance and mood outcomes is not surprising as this motivation concept may not readily apply to mood issues.

10.15.2 Self-efficacy

As with motivation, there was no interaction effect of self-efficacy on the alliance-outcome association, again not surprising given that alliance and outcomes were not significantly associated. Based on the COMBINE alcohol study data, Hartzler et al. (2011) reported that self-efficacy did not have a moderating effect on the relationship between the bond aspect of alliance (as measured on the WAI) and 12 month outcomes in those treatment conditions where medication was included (Hartzler, et al., 2011) (refer section 3.2.5.1.5). The authors proposed that when medication is included in treatment, clients may be more apt to perceive changes as attributable to medication rather than to their own behaviour. However, quantitative and qualitative findings in the current study challenge this proposal. Firstly, there was a sizeable increase in the self-efficacy score between baseline and end of treatment. Secondly, in qualitative interviews self-efficacy was one of the factors that clients attributed to changes in their drinking or mood. This suggests that the finding in the current study, that self-efficacy did not play a moderating role, is more likely to be a result of the lack of association between alliance and outcome, than between self-efficacy and outcome.

Similar to motivation, the lack of a moderating influence of self-efficacy on mood outcomes is most likely accounted for by its conceptualisation in relation to drinking.
10.16 Hypothesis eleven: Alliance as a predictor of outcome

_Hypothesis eleven stated: Alliance will not predict outcome once other variables are accounted for._

The TEAM study sought to determine if alliance predicted mood or drinking outcomes, either on its own or in association with other variables. Multivariate prediction models utilised alliance and also those variables identified through their significant association with alliance or as indicated by previous research. Therapist alliance emerged as predictive of mood outcome, as measured by the MADRS, whereas other variables did not. This finding disputes the reverse causation hypothesis (Crits-Christoph, et al., 2011) and again this extends the finding that alliance is predictive of mood outcomes to a depressed population with co-existing alcohol dependence. Given the lack of overall associations in the current study between alliance and drinking outcomes, it was unsurprising that alliance was not predictive of drinking outcome.

Multivariate analysis found that retention was predictive of drinking outcome. This is consistent with earlier research which has reported that treatment retention is associated with better outcomes in substance-using populations (Simpson, Joe, & Rowan-Szal, 1997; Stark, 1992). While some studies have reported that motivation is a robust predictor of drinking outcome (Adamson, et al., 2009), in the current study retention was a better predictor.

10.17 Conclusions

The current investigation concerning alliance and its relationship with mood and drinking outcomes observed differential associations with regards to mood, compared to drinking, and also in relation to the subscale components of the bond, task and goal which comprise the alliance measure. A number of factors help explain the lack of association between alliance and drinking outcomes, and relatedly, these differential findings. These are discussed below.

10.17.1 Conceptual and measurement issues

One possible explanation for the lack of association between alliance and drinking outcomes is that, as postulated by Orford (2008), the alliance concept and subsequent measures
designed to tap into this construct have less relevance in substance use treatment relationships (refer section 2.1.5). It is unclear whether this is due to differences in the characteristics of the treatment population, substance use pathology, or treatment approaches. However, it is apparent that current measures seem less able to adequately capture or discriminate alliance (as defined by Bordin (1979)), as it is perceived or experienced by the therapist-client dyad in this population. Accordingly, it appears to have less relevance to drinking outcomes.

This highlights the question as to whether the issue is about alliance as a concept per se or about the way in which it is assessed. Several features of the current findings reinforce the legitimacy of both these possibilities: Firstly, that clients consistently rated alliance high resulting in a ceiling effect indicates that the WAI appears to be less well suited psychometrically to this population with the loss of information that occurs with a strong ceiling effect; secondly, the lack of association between client and therapist ratings; thirdly, therapist alliance being a critical indicator of outcome whereas client ratings were not; fourthly, aspects of subscale analysis, i.e. that certain subscale components were more relevant to outcome and that there were differences between the subscales as a result of controlling for early symptom change; and lastly, the qualitative findings from the TEAM study.

Arguments for the re-examination of the alliance concept are supported by findings from the TEAM qualitative research, namely that while key elements of the therapeutic relationship identified by clients shared similarities with Bordin’s alliance concept, there were also important differences. The bond component clients identified, when reflecting on the therapeutic relationship, had characteristics congruent with Bordin’s concept and with the bond subscale as defined by Horvath and Luborsky (1993). The advocacy component fitted the description of the task component of alliance, although it was much narrower and had a specific focus on advocacy tasks. How therapist competence relates to Bordin’s alliance concept is less obvious and the association less direct. Whilst competence bore some relationship to tasks and goals, in the current context, it seemed to more represent clients’ evaluative judgement of the therapist’s abilities. Lastly, whilst the collaborative nature of the relationship featured at times in clients’ descriptions, it was not deemed to be essential to a good relationship, particularly with regard to the fulfilment of tasks. Thus, given that the main components which clients identified differed from features of the traditional concept, alliance, as it is currently conceived, may be less accurate for this treatment population than it is for other populations.
Differential findings amongst the subscales suggest that some aspects of the alliance concept may matter more, or may play a more prominent part than previously thought in the alliance construct in substance-using populations, including those with co-existing problems. Overall, it appeared that the task component has greater relevance for mood and drinking, particularly drinking. This may also relate to from whose perspective alliance is viewed, as previous qualitative research found that for therapists alliance appeared more aligned with a business relationship, as opposed to a personal relationship with clients (Cowle, 2003).

The therapists’ evaluation of the quality of alliance was more discriminating than the clients’ and, perhaps as a consequence, their viewpoint of alliance related to outcome more often. This greater degree of variance and the more central role which therapist alliance had with outcome are consistent with Crits-Christoph et al.’s (2009) rationale for the re-examination of the alliance concept as an interactional variable. In their research with a substance dependent population, the authors observed that therapist variability played a greater role in the alliance-outcome relationship than did client variability. They stated that: “To the extent that the between-therapists but not the within-therapist component of the alliance is related to treatment outcome, conceptualizations of the alliance as primarily an interactional variable (e.g., Henry & Strupp, 1994) may need to be modified” (Crits-Christoph, et al., 2009, p. 1133).

The centrality of the therapist role in the alliance-outcome relationship is buttressed by the TEAM qualitative findings whereby, when clients reflected on the therapeutic relationship, the focus was much more on the therapist than it was on the therapist-client dyad interaction or the client.

As well as concerns with the concept itself, the lack of association between alliance and drinking outcomes may be related to issues in measuring alliance. The lack of sensitivity of the WAI in discriminating variances in the quality of alliance in this treatment population was highlighted by the high ratings of alliance, particularly client ratings. While alliance may have been of high quality in the TEAM study, in order for the WAI to be a useful tool some discriminatory function is needed in order to identify those aspects of the therapeutic relationship which are more important in influencing outcome. The viewpoint that the WAI lacked the sensitivity to capture the nuances that mattered is augmented by the qualitative findings. During qualitative interviews clients emphasized the importance of the bond in relation to engagement, and linked therapist qualities congruent with the bond concept to
improvements in their mood and drinking. Thus, although the client perceived the bond as a dominant factor associated with improved outcome, the lack of association between this subscale and outcomes suggests that the current measure, the WAI, was not sensitive enough to capture this influence.

At times the direction of association between the specific subscale components and outcome were in opposing directions (e.g. bond versus task subscale). This may have resulted in the associations cancelling each other out when they were combined into a total score. This pattern of associations was not found to be the case with mood outcomes where the bond subscale had a more neutral effect on overall associations. This anomaly with the bond subscale strengthens arguments for the re-evaluation of the WAI and its subscale components, particularly in regard to differing substance-using populations.

The current investigation included only one measure of alliance, the WAI, assessed from the viewpoint of the therapist and the client. It is possible that the association between alliance and drinking outcomes may differ when using measures conceptualised in a different way or assessed from an observer’s perspective. This proposition would be consistent with research comparing a range of measures and perspectives in substance-using treatment populations (Fenton, et al., 2001). Here observer measures were associated with outcome, particularly on the Penn and VTAS measures, whereas the client and therapist alliance (only assessed with the WAI) were not.

In summary, findings from the current investigation suggest that the pantheoretical concept of alliance in this substance-using treatment population needs revisiting, as does the suitability of current generalist alliance measures for specific substance-using treatment populations. Knowledge gained from re-evaluation investigations will be crucial in developing a specific measure that best reveals elements of the therapeutic relationship in substance-using treatment populations which are most influential in drinking outcomes. Until this occurs, understanding how the relationship impacts on outcomes and the relevance of alliance research remains problematic with this treatment population.
10.17.2 Therapist variability

Another reason for the lack of association between alliance and drinking outcomes was that therapists were all highly experienced. Accordingly, there was likely to be less variation in the quality of alliance in the TEAM study than may be present in other research or in routine clinical practice. Because of this, one could posit that alliance is related to drinking outcomes but is demonstrated only when there is greater variability in therapists’ experience. In mood outcomes, by contrast, the alliance-outcome relationship is evident even with highly experienced therapists. This suggests that therapists’ level of experience may act as a moderator in the alliance-outcome relationship, interacting differently with mood, compared with drinking.

These findings enhance the rationale for an increased focus on the role of the therapist in the alliance-outcome relationship (Baldwin, et al., 2007; Crits-Christoph, et al., 2009). They also strengthen arguments for re-evaluating the conceptualisation of alliance as an interactional variable (Crits-Christoph, et al., 2009). The re-emergence of this emphasis on therapist qualities, in terms of their greater influence on outcome, signals a return to the viewpoint proffered by Rogers many decades ago (Rogers, 1959).

10.17.3 Trajectory of change

Differences in the trajectory of change between drinking and mood may have contributed to differences in the significance of the alliance-outcome relationships for these two disorders. As evidenced in the TEAM and the BTP study, most change in drinking occurred early in treatment, while mood continued to improve throughout the treatment period.

There is limited research that has tracked the relationship between alliance and drinking outcomes over time by using repeated measures of both alliance and outcomes. Crits-Christoph et al. (2009) found that alliance was more related to outcome in the follow-up period (4-16 weeks) than it was in the 3 week treatment phase. In the BTP study, a similar short-term intervention, this was found not to be the case.

Research that tracks this relationship over a much longer period may illuminate the role which alliance plays both over the course of longer term treatment and in sustained change. It may also illuminate the impact which changes in the strength of the alliance have on outcome during treatment. It may also uncover whether the differential pattern of findings observed in
the TEAM study continues in these two disorders over time. Such research is particularly advisable given the chronic relapsing pattern of, and interrelationship between, alcohol dependence and depression. Furthermore, earlier reviews of alliance research suggested that different components (bond, task and goal) may play a different role at different times during the therapeutic journey (Horvath & Luborsky, 1993). As such, tracking this relationship will enable further examination of this premise.

When tracking the alliance-outcome relationship further consideration of drinking outcome measures are justified. Cognizance should be given to the proneness for a ceiling (PDA) or floor effect (DDD) with some variables, due to high levels of baseline abstinence or reduced drinking levels that can therefore reduce the sensitivity of these measures. In the current study PDA appeared to be a more sensitive outcome measure at the level of subscale analysis, most likely a consequence of a different pattern of change when outcome is measured (and defined) in this way. This reinforces the earlier comments that arose from the BTP findings, that a more extensive drinking profile may reveal ways in which alliance impacts on particular drinkers and their drinking patterns (refer section 6.2.1).

10.17.4 Measurement of outcome

It has been proposed that the less pronounced alliance-outcome relationship in substance-using treatment populations may be a consequence of AOD research generally reporting on change in relation to a (mostly) diagnosed pathology using objective markers (PDA, DDD) (Fenton, et al., 2001; Richardson, Adamson, & Deering, 2011). The diagnostic criteria required for inclusion in the current study were equally as stringent for depression as for alcohol dependence. Outcomes were measured along a continuum of change. However, primary drinking outcomes were based on more objective markers, such as the number of drinks consumed in a day (DDD) or number of days when alcohol was consumed (PDA), as opposed to changes in mood symptoms, which tended to be subjectively assessed by therapists without an objective reference point.

That mood outcomes are derived more subjectively may mean that the alliance-outcome relationship is more vulnerable to the halo effect for same source raters of alliance and mood, in that raters’ evaluation of the therapeutic relationship may influence their view of the client’s mood and vice versa. The inclusion of different rater perspectives with regards both to alliance and outcomes, particularly observers who are less susceptible to transference, may be
vital in disentangling whether the alliance-outcome relationship is more sensitive to the halo effect when using specific outcome measures and in different treatment populations.

In examining how the way in which outcome is evaluated moderates the alliance-outcome relationship, meta-analysis has repeatedly found that this relationship persists regardless of the outcome measure employed (Horvath, et al., 2011; Martin, et al., 2000). While this may hold true, the variability of outcome measures employed across investigations limits the comparability of findings and presents challenges in drawing definite conclusions.

### 10.17.5 Role of medication

The current study was a pharmacotherapy trial with supportive clinical case management, analogous to that provided in routine clinical practice in NZ Community Alcohol and Drug Services. While it may seem logical that alliance would be less pronounced in treatment that is less psychologically driven, research with both substance-using and depressed populations have not reported a difference in the alliance-outcome relationship for treatment with medication compared to that without (see section 3.2.6). In the current study all clients received medication. There was no difference in alliance or the alliance-outcome relationship for those who received the antidepressant medication compared with those on the placebo (see section 8.6.9). However, as all clients received the anti-craving medication, the present study was unable to determine the impact of naltrexone on alliance. It is possible that the effect this medication had on drinking may have masked the role that alliance could play in drinking outcomes when anti-craving medication is not included in treatment.

### 10.17.6 Impact of concurrent depression

The current population had both co-existing depression and alcohol dependence. That the relationship between alliance and drinking outcomes was unchanged when controlling for changes in mood, and the lack of association between baseline depressive symptoms and alliance, counters any argument that concurrent depression may have masked the role alliance has on drinking outcomes.

In conclusion, as the TEAM study had a greater focus on alcohol, it might have been thought that alliance would be more strongly associated with drinking outcomes than with mood. This was found not to be the case. Undoubtedly, this has implications for understanding how
treatment factors assist with drinking changes and raises the question as to whether pantheoretical elements of the therapeutic relationship play a lesser role, and if so, the nature of this role. At present research suggests that the alliance concept has less relevance to the substance-using treatment population, particularly with regard to its relationship with drinking outcomes. There are a number of reasons why this may have been found to be the case in the current study. Regardless, current findings support arguments that, with this treatment population, the relevance of the alliance concept and how it is measured, merits further examination. This may elucidate a different relational construct more pertinent to outcome, or signal the need for the design of a specialist assessment tool for this treatment population.

10.18 Strengths and limitations

This dissertation afforded the opportunity to investigate alliance in a range of ways across different treatment populations and from different perspectives. Employing a somewhat similar methodology in both the BTP and TEAM studies enabled comparison of results. A qualitative research component added another dimension to the TEAM investigation of alliance and the alliance-outcome relationship.

The TEAM study was an RCT designed foremost as an investigation of different pharmacotherapies. Therefore several design decisions suiting this primary purpose were not optimal for a study of alliance. Nevertheless the design of the TEAM investigation had many notable strengths. The TEAM study was a well-run RCT with a reasonably sized treatment population, careful measurement at baseline and throughout treatment and good retention rates. Since the treatment population under investigation was comorbid, there was an opportunity to compare and contrast the relationship between alliance and the two outcome domains. This was particularly valuable, both for considering alliance in a comorbid group and also in making it possible to directly compare two problem areas in the same sample. The study enabled differential outcomes for mood and drinking to be reported in a single treatment sample. These results are more robust than when contrasting findings in two different samples, as they are not confounded by differences in measurement tools, sample populations, therapists or the treatment delivered.

A further strength of the current study of the alliance-outcome relationship is that, although the study was specifically with a comorbid population, the findings contribute both to the
drinking alliance literature and the mood alliance literature. Focusing on this specific
treatment population is even more important given that co-existing alcohol dependence and
depression are one of the more frequently occurring co-existing disorders. For the most part
alliance research has focused on only one of these disorders and, in the case of research with
depressed populations, participants have often been excluded due to the presence of a
substance use disorder (see section 2.5.1).

Whereas more recent research has strengthened arguments that alliance be assessed at several
timepoints throughout therapy, the research design of the TEAM study meant that alliance
could be assessed at only one timepoint. As reported (refer section 2.3), a number of different
patterns in the strength of alliance across the course of the therapeutic relationship have been
observed (Hersoug, et al., 2010; Kivlighan Jr. & Shaughnessy, 2000). And, while an early
timepoint is preferable if one timepoint is utilised, different findings may have been observed
with alliance measured at different timepoints. Thus, the strength and generalizability of
findings would have been enhanced had alliance been assessed at more than one timepoint.
(Crits-Christoph, et al., 2011).

The TEAM study was distinct in its combination of highly experienced therapists working
with a group of more stable and higher functioning clients. This most likely contributed to the
high retention rate which strengthened its findings. However, these very features may have
resulted in less variability in alliance than normally occurs. Thus, in turn, lessened the
likelihood of capturing how this varying quality of alliance relates to outcome and how
applicable findings are to substance-using treatment populations in general. A further
consequence of these features was that it was not possible to examine the role of therapist
experience on alliance and the alliance-outcome relationship.

The current research assessed alliance with a validated, popular measure, the WAI, and from
two different perspectives, the client and therapist. Research has consistently found that rater
perspective influences alliance ratings and that alliance therefore should be assessed from a
range of viewpoints. Whilst research has advocated for the inclusion of an observer’s
perspective, the current investigation assessed only the client’s and therapist’s view of the
alliance. Assessing alliance using the longer version of the WAI made subscale analysis
possible. However, issues raised regarding subscale psychometric properties mean these
findings should be considered exploratory.
The qualitative research component added a valuable perspective with which to reflect on quantitative findings. The design allowed the client to freely reflect on their experience of the treatment and research so as to capture the key issues that emerged from the client’s perspective. In addition, the term alliance was not used as it was thought that those in the treatment sample would not give it the same meaning as that used in alliance research. This means that findings relate to areas much broader than the central focus of the dissertation. Although not directly relevant, it is considered that including the wide-ranging themes that emerged regarding the client’s research and treatment experience adds to overall findings by providing a richer context of the clients experience during the TEAM treatment. Any consideration of these findings needs to take into account the broader conceptual frame used.

The TEAM study was a pharmacotherapy trial with a clinical case management component allowing therapists to employ, to a limited degree, a range of therapeutic strategies in response to clients’ needs. In addition, clients were able to engage with alternative treatment and this latitude enabled the qualitative research to capture a range of factors which clients associated with improved outcomes, both within and beyond their current treatment. This contextualised the therapeutic relationship within this broader framework of the process of change.

To conclude, the current dissertation has a number of strengths that add to the credibility of findings and confirm the unique contribution they make to alliance research, particularly in substance-using treatment populations. As stated in the preface, undertaking research using extant data and with a broader research investigation, to a certain extent, compromised the research design with the concomitant and other limitations, as outlined above. However, on balance, the strengths have been shown to outweigh the limitations confirming the inherent value of the current research.

10.19 Clinical implications

The current findings highlighted a number of important issues for clinical practice that are relevant when working with this specific treatment population. Firstly, that clients’ consistently rate alliance so highly suggests that attention should be given to the relationship when alliance is not only poor, but when less than very good. And, when this is found to be the case, the clinician should work to identify issues that may have caused this outcome and
respond appropriately. It should be noted that issues may include aspects of the therapeutic interaction and also factors beyond the session, e.g., appointment times. If clinicians repeatedly find they have less than very good alliance with clients they should seek guidance from their clinical supervisor.

Secondly, whilst alliance was not associated with remission from depression, good alliance was significantly related to improvements in mood. This reinforces how vital it is for therapists to ensure they have a good working relationship with their client in order to enhance outcomes for depressed clients, including those with co-existing alcohol dependence.

The current association between baseline motivation and alliance at three weeks signals to therapists that the working relationship may need more concerted attention with those clients who enter treatment with low motivation. This may be especially relevant to those clients mandated to attend treatment. Also with respect to motivation, qualitative findings demonstrated that the research component of treatment was a motivating factor for clients to self-refer and for them during treatment. This suggests that motivation in treatment populations within a research trial may differ from motivation for clients receiving treatment within a standard clinical context. Given that almost half the sample was undecided as to whether they wanted to change their drinking at baseline (i.e. contemplative) it should not be assumed that seeking treatment equates with the equivalent motivational level to change drinking, particularly in research-based treatment.

Although treatment retention and session attendance are related concepts, alliance was associated with retention in treatment but not associated with the number of sessions attended. Each of these findings has distinct clinical implications. These implications, whilst not contradictory, are nevertheless tentative, particularly given that the terminology in this area continues to lack clarity (refer section 10.12). Firstly, as indicated by the association between alliance and retention, ensuring good alliance may be linked with retaining clients in treatment. This in turn affords the opportunity for other interventions to be provided or access to support systems facilitated which may assist in symptom alleviation. Secondly, the lack of association between the number of sessions attended and alliance suggests that therapists should not assume that just because clients continue to attend treatment that there is a good working relationship. This was reinforced by a client in the qualitative study who stated that she continued to attend treatment despite believing that
it was of little therapeutic value for her. This indicates that when clinicians evaluate the quality of the relationship aspects beyond continued attendance should be considered. This should include obtaining feedback from clients about their view of the relationship and their reasons for attending treatment. As client feedback may be constrained by inherent power issues in the therapist-client relationship, the use of mechanisms for obtaining feedback external to the therapist are advised.

The importance placed on both social supports and broader treatment options in the qualitative research reinforces the viewpoint that treatment should incorporate ways in which clients can be supported in recovery which are beyond the limits of the therapeutic relationship or the specific treatment model.

10.20 Future research

Research areas worthy of further inquiry have been identified throughout the discussion of both the BTP and TEAM results. A review of these, and those not yet commented on, follows. Within this discussion research design suggestions that would enhance the strength of findings are provided.

A re-evaluation is needed of the alliance concept, particularly in terms of its relevance to varying substance-using treatment populations and as an interactional concept. The inclusion of other methodologies with qualitative and mixed method research designs, and a range of rater perspectives are advisable in such a re-evaluation. In conjunction with this, it may be timely for a measurement tool to be developed that is better able to capture those elements of the therapeutic relationship that are relevant to addictive behaviour and lifestyle change, as has been developed for other specific populations, e.g. adolescents and those incarcerated.

Qualitative findings from the TEAM investigation indicated therapist competence is a central component in clients’ construct of the therapeutic relationship. Relatedly, the BTP study found no difference between MET and NDRL, suggesting that it may be underlying common core skills that are related to alliance rather than delivery according to a specific therapeutic modality (see section 6.2.4). These findings strongly suggest further investigations focus on the role of the therapist and treatment modality. Such investigations
may yield valuable findings as to whether it is core qualities and skills common to 

*competent* therapists, occurring across a range of modalities, that matter or the modality itself. In conjunction with the recognition of the role of the therapist in the alliance-outcome relationship (see section 10.17.1) future research designs need to ensure that a greater variability of therapists is included, as would be found in clinical settings.

While the current study found that alliance and drinking outcomes were not associated, the trend towards a significant relationship between these factors suggests the need for further research before more definite conclusions can be made with regards to this treatment population. Psychosocial variables are particularly worthy of additional consideration. The role that motivation plays deserves detailed scrutiny. Self-efficacy and other intrapersonal variables also warrant exploration.

The differential findings with mood outcomes in the current study suggest that the question of relevance may pertain specifically to the problematic substance use, rather than to the population per se. Further examination within a co-existing alcohol dependent and depressed treatment population regarding why alliance matters with mood, but not drinking outcomes, will add further to our understanding of alliance and improved drinking outcomes. Such research, as with all research concerned with the alliance-outcome relationship, should ensure that outcome measures capture the range of symptomology and are not limited to diagnostic categories.

The question of whether alliance impacts differently with specific problem areas for other co-occurring treatment populations has not been within the scope of this dissertation. A small number of studies have focused on other specific co-morbid treatment populations, e.g. people with substance use and a nonaffective psychotic disorder (Barrowclough, et al., 2010). Given the disparate relationship alliance had on the differing disorders in the current study, continued exploration along these lines of inquiry is justified. Similarly worth pursuing is research which is able to distinguish if divergent findings would be present for other treatment with more than a single therapeutic focus.

The current investigation indicates a number of recommendations for future alliance research focused on a substance-using population or other comorbid treatment population. Firstly, the use of a mixed-method approach should be employed to enable alliance to be viewed through a wider lens and by doing so inform on conceptual issues that exist in relation to this specific
A range of alliance measures should be included, ideally ones that better discriminate alliance within substance-using populations. Assessment of the alliance concept should also be provided from a range of perspectives including that of an observer so as to avoid the influence of transference, the social desirability effect and the halo effect. If possible research should ensure that greater therapist variability is captured. This may be achieved by including therapists with more varied length of experience and also by using less stringent inclusion criteria for therapist involvement. Naturalistic studies would lend themselves to this design element.

In order to fully disentangle the influence which the interactive patterns of change in alliance and outcome have on their relationship with each other, research needs to track both alliance and outcome at multiple assessment points, including a very early measure. Such an early measure will have the added benefit of capturing those who drop-out of treatment at a very early stage. Also, in so far as most change in drinking outcomes occurs very early in treatment, it may assist in answering whether very early alliance is a marker or predictor of drinking change. The inclusion of PDA and DDD drinking outcomes are important to enhance comparability with other studies in this area.

10.21 Final conclusions

Overall findings from the investigations in the current dissertation support the conclusion that the broad concept of alliance, when measured by the WAI, and drinking outcomes are not related or, at the most, that the relationship is a weak one. Some positive associations were found in the BTP study. However within the larger TEAM investigation, which assessed alliance using a validated measure, only one, minor, significant association between alliance and drinking outcomes was found. This association was significant only when controlling for early change in drinking. As such, for the most part alliance and drinking outcomes were not related. This included a lack of associations with those drinking outcomes pertaining to drinking pattern and the severity of dependence.

Subscale analysis examined the alliance-outcome relationship in relation to the different components that comprise the alliance concept. The pattern of findings from this analysis showed that the task component was significantly associated with several drinking outcomes,
and, as such, appears to be the most important aspect of alliance for drinking outcomes with this treatment population.

No associations between alliance and outcomes were evident in client ratings, most likely due to a ceiling effect. However, qualitative research found that, when clients are able to reflect openly on their treatment experience, the therapeutic qualities and aspects of treatment they identified as being related to improvements in drinking and mood were ones which related also to the bond and task components of alliance. The seemingly disparate findings between quantitative and qualitative research components reinforce the need to reconsider alliance as it is currently conceived and measured for substance-using populations, particularly with regard to drinking outcomes.

In contrast to drinking outcomes, a significant positive relationship was found between therapist-rated alliance and mood outcomes with stronger alliance associated with improved mood. At a subscale level of analysis both the task and goal aspect of alliance appear to be equally strong predictors of outcomes. These findings add weight to those from the extant literature, extending this positive association to a treatment population with co-existing depression and alcohol dependence.
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The Role of Therapeutic Alliance in Treatment for People with Mild to Moderate Alcohol Dependence

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Abstract In an exploratory study of Therapeutic Alliance (TA) in brief outpatient treatment for alcohol dependence the relationship was investigated between TA and treatment outcome (measured at 6 weeks and 6 months) for 69 alcohol dependent clients participating in a randomised control trial between Motivational Enhancement Therapy and Non Directive Reflective Listening. TA was significantly higher for clients who attended all four sessions. The correlation between TA and change in per cent days abstinent (PDA) between baseline and 6 weeks approached significance. TA was significantly correlated with the Alcohol Problem Questionnaire (APQ) at 6 months and with change in APQ scores between baseline and 6 months. These relationships remained significant when treatment assignment was controlled for. Whilst there was a trend towards a relationship between TA and change in PDA between baseline and 6 months, this trend no longer remained when both treatment assignment and early change in drinking levels were controlled for. Therapeutic alliance may be a useful additional maker to predict outcome, but early treatment response appears to be a better predictor.

Keywords Alcohol dependence • Therapeutic alliance • Treatment outcome • Engagement • Treatment assignment

Therapeutic alliance (TA) has been defined as "... a collaborative relationship between the client and therapist that consists of an emotional bond and a shared presumption regarding the tasks and goals of the treatment endeavour" (Connors et al. 1997: 588). TA has been identified as an important determinant of treatment outcome (Orlinsky et al. 1994) with meta-analytic reviews from general psychotherapy literature reporting an overall effect size of .26 (Hovarth and Symonds 1991) and overall weighted alliance-outcome correlation of .22 (Martin et al. 2000). The quality of the therapeutic relationship is vital when working with

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people with a substance use disorder as traditionally these clients often have unsatisfactory relationships and are difficult to engage and retain in treatment programmes (Meier et al. 2005a). Despite this knowledge there is comparatively little research focused specifically on alcohol and other drug (AOD) clients. In their review of 18 studies that explored the relationship between therapeutic alliance and substance use treatment, Meier et al. (2005a) concluded that an early measure of therapeutic alliance was a predictor of engagement and retention in treatment. However, findings regarding the relationship between the therapeutic alliance and treatment outcomes were often contradictory, hindering firm conclusions being made. Whilst a number of studies report that better therapeutic alliance was linked with improved treatment outcomes (Connors et al. 1997; Ilgen et al. 2006; Ilgen and Moos 2005; Najavits and Weiss 1994; Tunis et al. 1995), other studies have only partially supported this association (Barber et al. 2001; Hser et al. 1999; McCabe and Priebe 2003). In contrast, other research investigations have found that the relationship between therapeutic alliance and treatment outcome was not significant (Belding et al. 1997; Rayel et al. 1999).

Previous level of drug use, found to be highly predictive of treatment outcome, has rarely been controlled for when investigating this relationship (Adamson et al. 2009; Connors et al. 1997; Meier et al. 2005b). Research specific to alcohol dependence has controlled for pre-treatment drinking history but not early treatment response (Connors et al. 1997). Project MATCH was a randomised clinical trial designed to investigate matching clients to alcohol treatment, with two parallel arms; the outpatient arm recruited clients from outpatient settings and directly from the community and the aftercare arm recruited clients into Project MATCH after the completion of inpatient treatment. Clients were randomly assigned to one of three treatment conditions, Cognitive Behavioural Coping Skills Therapy (CBT), Motivational Enhancement Therapy (MET), and Twelve Step Facilitation Therapy (TSF). Project MATCH Research Group (1997). Utilising Project MATCH data, Connors et al. (1997) reported that when pre-treatment drinking history was controlled for, a positive relationship was found between both therapist and client ratings of working alliance and drinking outcomes (PDA and DDD) at 12 months following treatment for the outpatient group (N=698). The relationship was not significant for the aftercare group (N=498). Subsequent analysis of this outpatient sample, using a composite drinking outcome measure, revealed a positive relationship between the therapist rating of alliance and better drinking outcomes (reduced alcohol use) at both six and 12 months. This relationship was stronger, that is the greater the TA, the lower the alcohol use, if the client rated themselves as having lower motivation to change their alcohol use. However, for client ratings of alliance, the relationship was significant at 6 months but not 12 months, with no significant interaction effect with motivation found at either six or 12 months (Ilgen et al. 2006). Again utilising Project MATCH data, when examining those who deteriorated during treatment (aftercare, n=50 and outpatient, n=91) lower ratings of therapeutic alliance on the Working Alliance Inventory (WAJ) (Hovarth and Greenberg 1986) were associated with heightened risk of deterioration or alcohol/drug symptom exacerbation at 3 months following treatment compared to baseline measures of related symptoms for the outpatient sample, but not the aftercare group (Ilgen and Moos 2005).

Research from the wider AOD field show that when recent drug use levels, including early treatment response, have been controlled for, alliance was no longer a significant predictor of improved drug use outcomes. Belding et al.’s (1997) study of 57 clients in methadone maintenance treatment found when drug use in the previous month was controlled for, the strength of the therapeutic alliance as rated by the therapist or the client was no longer a significant predictor of improved drug use outcomes (Belding et al. 1997).

Despite extensive research to determine the most effective treatment model, conclusions remain that no one model is superior (Hovarth and Lubsorsky 1993). Investigations comparing
different treatment modalities in the AOD field have also failed to distinguish any one model of treatment as achieving consistently better outcomes (Project MATCH Research Group 1997). As a result there is a growing body of research investigating pan-theoretical concepts, including therapeutic alliance, focusing on common elements underpinning treatment models that enact change as opposed to differences between the models. Subsequently, research has started to unpack interactions between variables in these two strands of research examining the interaction between alliance and treatment modality on outcome. As with the relationship between alliance and treatment outcome, findings with regard to the interaction between alliance and treatment modality on outcome are mixed both between and within studies (Connors et al. 1997; Crites-Christoph et al. 2009; Dundon et al. 2008).

Connors et al.’s (1997) Project MATCH analysis of the interaction between alliance and treatment modality in predicting treatment outcome reported that for the aftercare group a strong negative relationship was found between the therapist ratings of alliance and DDO in the MET condition and modest positive relationship in the CBT and TSF condition (Connors et al. 1997). No significant interactions between client ratings of alliance and treatment assignment were reported in either the aftercare or outpatient group, nor with the therapist ratings in the outpatient group. There were no significant interactions with PDA and client or therapist alliance in either group. Overall the findings indicate that the relationship between therapist rated alliance and outcome were moderated by treatment assignment for the aftercare group only. Similar mixed results were reported by Dundon et al. (2008) in their research with alcohol dependent patients receiving naltrexone or placebo in three different treatment conditions; medication only, medication plus an intervention promoting pharmacotherapy (BRENDA) and medication plus CBT. Higher alliance scores in the medication only group were related to increased session attendance but not PDA; while for the BRENDA group the reverse was found, that is higher alliance was linked with greater PDA but not session attendance. No significant relationships were found with the CBT group. In contrast, Crites-Christoph et al.’s (2009) comparison of MET and Counselling as Usual (CAU) with substance users (alcohol 62%, cocaine 60%, marijuana, 27% and opiates 19%) found no significant differences between the two treatment conditions with regard to the client ratings of alliance and treatment outcome (measured by number of drinking days). However, the authors did report that for therapists rating of alliance, greater use of specific MET related techniques was related to higher alliance scores, regardless of the treatment modality (MET or CAU) therapists were following. Of further interest was that rather than a direct linear effect this relationship was curvilinear, as such therapists with high or low alliance ratings were found to have poorer average drug use outcomes compared with those whose ratings were closer to the overall mean.

The present study was exploratory as it sought to investigate the role of TA in brief outpatient treatment for alcohol dependence. The study extends previous research as it seeks to separate the association between TA and durability of treatment effect from the more immediate association between TA and initial treatment response and in doing so it also explores the relationship of TA with changes in pattern of drinking between these time points. In addition the study investigates differences between two standardised treatments in relation to TA and treatment outcome.

Method

The Brief Treatment Programme was a randomised controlled trial designed to investigate the effectiveness of Motivational Enhancement Therapy (MET) in treating mild to moderate...
alcohol dependence (Sellman et al. 2001). Participants were recruited from the Christchurch Community Alcohol and Drug Service during 1997 and 1998. Inclusion criteria were the ability to give informed consent and a principal current disorder of alcohol dependence (mild-moderate level) as diagnosed by the DSM-IV (APA 1994). Exclusion criteria included a history of alcohol withdrawal syndrome as defined by DSM-IV, with symptoms lasting more than 24 hr; or significant medical or psychiatric conditions for which controlled drinking is not advised, although in practice few people were excluded on this basis (Sellman et al. 2001).

There were 125 participants who completed assessment and attended a feedback/education session. At the conclusion of the feedback session, participants were randomly assigned to one of three treatment conditions (four sessions of MET; four sessions of non-directive reflective listening (NDRL) (Sellman et al. 2007) or no further counselling). All participants completed a 6 week review and 122 were followed up at 6 months. As has been previously reported patients receiving MET achieved better drinking outcomes at 6 months than either the NDRL or the no further counselling group (Sellman et al. 2001). As the current study was based on the therapeutic relationship between clinician and client only participants assigned to the two treatment conditions receiving therapy (MET or NDRL) and who attended at least one of these treatment sessions were included. Clients assigned to the third group, no further counselling, were excluded. Thus, of the 82 participants randomised to one of the two active treatment conditions 13 did not attend any treatment sessions. This produced a sample size for the present study of 69.

Measures

Therapeutic Alliance

The measure of therapeutic alliance was based on a four item questionnaire (Fig. 1) focused on the therapists’ experience of working with the client, completed after the final session, or at week six for clients not attending their final appointment. Response options for the four items were 0–10, so that total score could range from 0 to 40. Factor analysis extracted one factor which accounted for 81% of variance, and the scale had excellent internal reliability (Cronbach’s alpha = .94).

Treatment Outcome

Outcome was assessed by the following related measures: Drinking frequency (percent days abstinent, PDA) and drinking intensity (drinks per drinking day, DDD) were recorded using the Timeline Followback procedure (Sobell and Sobell 1992), and were measured at

- Overall, how engaged was this patient with the therapy?
- Overall, how much rapport did you have with this patient during the therapy?
- Overall, how much did you enjoy being involved in the therapy with this patient?
- Overall, how well did this patient seem to grasp the concept of the particular therapy?

Fig. 1 Four-item therapeutic alliance scale

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two points in time; initial treatment response (6 weeks) and treatment outcome measured at 6 month follow-up. Unequivocally Heavy Drinking (UHHD) was defined as drinking ten or more standard drinks (i.e. 100 g or more pure alcohol) on six or more days over the six-month follow-up period. Alcohol related problems were measured using the Alcohol Problem Questionnaire (APQ) (Drummond 1990). The 23-item Common Scale was used, which explores the domains of friends, police, finances, physical and psychological areas. Alcohol dependence severity was rated using the Leeds Dependence Questionnaire (LDQ), a measure of dependence severity conceptualising DSM-IV criteria of tolerance and withdrawal into behavioural terms (Raiteri et al. 1994). This measure has been validated on a New Zealand client population (Paton-Simpson and MacKinnon 1999). The above measures were all employed at baseline, providing a profile of pre-treatment drinking.

Data Analysis

Data were analysed using SPSS version 15. Preliminary analysis found that data were normally distributed at the different timepoints (baseline, 6 weeks and 6 months) and for change scores, therefore satisfying requirements for the use of parametric tests. The strength of associations for continuous variables was calculated using Pearson correlation coefficients, with partial correlations used to control for early treatment response and treatment assignment. Because the APQ and LDQ were not administered at 6 weeks, early treatment response was controlled for in DDD and PDA analyses only. T-tests were employed for categorical variables. To account for variance in baseline drinking levels PDA and DDD change scores were calculated between baseline and 6 weeks, and baseline and 6 months. Change scores were calculated between baseline and 6 month LDQ and APQ scores. To account for data lost to follow-up Last Observation Carried Forward (LOCF) analyses were employed for all measures of outcome. Binary logistic regression analysis was conducted to predict unequivocal heavy drinking at 6 months.

Results

Demographics of Subjects

Participants age ranged from 17 to 59 years (mean = 37.6 years, SD, 10.4). Fifty-four per cent were male, 38% married, 10% of Maori ethnicity, with a mean educational level of 12.1 years, SD, 3.1 and mean onset of alcohol dependence of 28.5 years, SD, 10.6.

Missing to Follow Up

There were no statistically significant differences between those who were followed up at 6 months compared with those who were not for baseline demographic variables. Nor were there any statistically significant differences between the two groups on PDA and DDD measures at baseline or 6 weeks, or with APQ and LDQ scores at baseline.

Therapeutic Alliance

Eighty-four percent of participants in the two treatment groups attended all four sessions. The mean TA was significantly higher for clients who attended all four sessions compared with the mean for those who attended one to three sessions (7.44, compared with 5.50, SDs.
1.48 and 1.00 respectively, \(r = 3.97, p < .001\). With regard to the therapeutic modality of the treatment group whilst the mean TA was scored higher for those clients assigned to MET compared to those assigned to NDRL, this relationship was not significant (7.38 compared with 6.80, SDs 1.5 and 1.8 respectively, \(r = 1.45, p = .151\)).

Therapeutic alliance was correlated with change in PDA between baseline and 6 weeks (\(r = .24\), \(p = .05\) (Table 1)); the greater the TA, the greater the increase in PDA. Results also indicate a trend towards significance between TA and baseline PDA; the greater the TA at 6 weeks, the greater the PDA at baseline, and also with TA and change in PDA between baseline and 6 months, the greater the TA, the greater the increase in PDA between the two time points. There were no significant associations between TA and DDD at the individual time points or changes in DDD, although a trend towards significance was found with TA and DDD at 6 months, the greater the TA the lower the DDD.

After controlling for treatment assignment the relationship between TA and change in PDA from baseline to 6 months remained unaffected (\(r = .24\), \(p = .05\)); the greater the TA the greater the increase in PDA. Trends towards significance with TA and PDA measures remained, this trend less so between TA and DDD at 6 months.

Finally, when controlling for both treatment assignment and corresponding early treatment response (ie change in PDA or DDD at baseline and 6 weeks) the trend between TA and change in PDA between baseline and 6 months was no longer apparent.

### Table 1 Partial correlations between therapeutic alliance mean score and treatment outcome measures

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<tr>
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<th>Controlling for treatment assignment</th>
<th>Controlling for treatment assignment and corresponding early treatment response</th>
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<tbody>
<tr>
<td></td>
<td>(r)</td>
<td>(p)</td>
</tr>
<tr>
<td>DDD T1 (baseline)</td>
<td>-.17</td>
<td>.18</td>
</tr>
<tr>
<td>DDD T2 (6 weeks)</td>
<td>-.12</td>
<td>.31</td>
</tr>
<tr>
<td>DDD T3 (6 months)</td>
<td>-.21</td>
<td>.09</td>
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<tr>
<td>Change scores</td>
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<td></td>
</tr>
<tr>
<td>DDD T1 to T2</td>
<td>.08</td>
<td>.52</td>
</tr>
<tr>
<td>DDD T1 to T3</td>
<td>.06</td>
<td>.63</td>
</tr>
<tr>
<td>PDA T1 (baseline)</td>
<td>.22</td>
<td>.07</td>
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<tr>
<td>PDA T2 (6 weeks)</td>
<td>.02</td>
<td>.87</td>
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<td>PDA T3 (6 months)</td>
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<td>Change scores</td>
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<td>PDA T1 to T2</td>
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<td>PDA T1 to T3</td>
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<td>.09</td>
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<tr>
<td>APQ T1 (baseline)</td>
<td>.04</td>
<td>.73</td>
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<tr>
<td>APQ T3 (6 months)</td>
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<td>.04*</td>
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<tr>
<td>Change score</td>
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<td></td>
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<tr>
<td>APQ T1 to T3</td>
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<td>.04*</td>
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<tr>
<td>LDD T1 (baseline)</td>
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<tr>
<td>Change score</td>
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<tr>
<td>LDD T1 to T3</td>
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<td>.44</td>
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* \(p < .05\)
Therapeutic alliance was significantly correlated with APQ at 6 months ($r=−.25, p=.04$) and with change in APQ between baseline and 6 months ($r=−.26, p=.04$). That is, the greater the TA, the lower the score on APQ at 6 months and the greater the reduction in APQ scores between the two time points. These correlations remained significant when controlling for treatment assignment ($r=−.27, p=.03$ and $r=−.26, p=.04$ respectively). There were no significant relationships found between TA and LDQ scores.

The single independent measure of therapeutic alliance mean score was entered in a binary logistic regression to predict UHD at 6 months for the two treatment conditions. This yielded a non-significant model in which 62% of patients were successfully categorised at 6 months ($R^2=.044, \text{ Wald}=2.852, p=.091$).

Discussion

Psychotherapy reviews have concluded that the quality of client participation in treatment was the most important determinant of outcome, with the bond between the therapist and client mediating the link (Orlinsky et al. 1994). In contrast, the more limited research in the AOD literature suggests that for the AOD population, TA is a more robust predictor of engagement and retention than it is for post treatment outcome (Meier et al. 2005b). This difference may be related to more stringent diagnostic criteria. AOD studies aim to alleviate or change a (mostly) diagnosed psychopathology, with psychotherapy studies not generally requiring diagnosis for inclusion. This diagnostic focus dictates that there are specific outcomes linked with changes to addictive behaviour identified as (part of) the psychopathology of AOD dependence or abuse. One of the primary outcome variables studied is alcohol/drug use operationalised in a number of different ways (PDA, DDD, biochemical analysis) (Fenton et al. 2001). In addition, the difference may also relate to differences in treatment populations. For example AOD clients as a group being more difficult to engage and retain with many individuals having unsatisfactory relationships and social supports (Meier et al. 2005a).

The present study was exploratory in nature and identified a significant relationship between TA and initial treatment response (measured contemporaneously with TA at 6 weeks). Firstly, therapeutic alliance was rated significantly higher if clients attended all four treatment sessions. This finding is consistent with Meier et al’s review (2005a) that concluded early alliance is associated with engagement (defined by attendance and weeks retained in treatment). Both engagement and retention have been found to be predictive of improved treatment outcome (Meier et al. 2005a). The current findings are also consistent with findings from Project MATCH which found lower TA was predictive of poorer drinking outcomes (Connors et al. 1997; Ilgen et al. 2006; IJgen and Moos 2005). IJgen et al.’s (2006) finding that client ratings of therapeutic alliance was predictive of outcome at 6 months but not 12 months indicates the changing influence of TA as a process variable and highlights the value of research that measures outcome at a range of time points. The use of early treatment response as a useful predictive marker is supported by Hoath and Symonds (1991) who found early alliance more predictive compared with alliance measures averaged over several time points, the authors suggesting the averaging may cancel out temporal effects. Measurement of alliance along the trajectory of treatment at various timepoints in future research would be beneficial in strengthening conclusions regarding when the predictive power of TA for outcome is greatest.

Secondly, the trend towards those who drank more regularly (lower PDA) having higher TA scores suggests TA may be more easily established with regular steady state drinkers than for binge drinkers. While an increase in PDA over time was linked with greater TA, change in DDD was not associated with TA. These findings suggest the development and
role of TA in drinking outcomes may be associated with alcohol typology (e.g. Cloninger (Cloninger et al. 1996)), indicating future research should also consider client drinking profile in their investigations.

Also, therapeutic alliance was significantly related to a change in alcohol problems, but not a change in severity of dependency status. Further, the finding that the higher the TA the greater the decrease in alcohol related problems remained even when controlling for treatment assignment. This may suggest that the quality of alliance is linked to a strengthened capacity in clients to deal with associated problems irrespective of a persons change in dependency. Or it could be because APQ score is higher for binge drinkers, while LDQ score may not be correlated with drinking in the same way, again indicating that the investigation of the role of patient drinking profile is warranted.

In investigating the role of TA in predicting outcome, few studies have controlled for early treatment response, particularly for alcohol treatment samples. The current findings show TA was correlated with change in PDA between baseline and 6 weeks. However the trend between TA and change in PDA between baseline and six-month follow up no longer remained once early change in drinking was controlled, a finding that is consistent with previous research which indicated that change in drug use outcome following treatment is predicted by previous drug use levels (Belding et al. 1997). The current findings extend this to an alcohol dependent population. Thus therapeutic alliance may be a useful additional marker to indicate future change, but early change remains the better predictor.

Further research is necessary to determine if the role of TA is mediated by early treatment response as current findings suggest it is not a direct relationship. The possibility remains that a third variable is impacting on both alliance and treatment outcome.

Researchers in the AOD field have begun to consider the impact treatment modality may have on the relationship between alliance and treatment outcome (Connors et al. 1997; D’Andon et al. 2008); Cris-Christoph et al. 2009). With this study comparing the treatment assignment did not meaningfully alter any of the associations between TA and outcome measures. These findings are consistent with those reported by Cris-Christoph et al. (2009) which found no differences in the relationship between TA and outcome when comparing MET with CMA treatment conditions relatively similar to those in the current study.

The major focus of the study from which these data were drawn was not an investigation of therapeutic alliance and as such there were a number of design limitations. Firstly, the measure of therapeutic alliance was based on a mean score from a brief four item questionnaire completed by therapists.Whilst factor analysis identified one robust factor, named therapeutic alliance mean score, the questionnaire is not a standardised measure.

Therapist perception of alliance was assessed via a simple short, easy to administer questionnaire with adequate psychometric properties. Early research generally reported that the clients and observers ratings of the working alliance were more strongly associated with outcomes than were therapists’ ratings (Flaherty and Symonds 1991). However, more recently it has been stated that while clients ratings have been reported to be more consistent and stable over time compared with those of therapists, therapists ratings, although slightly less reliable, are still within the acceptable range (Martin et al. 2000). How this applies to the AOD field remains unclear as Fenton et al. (2001) have reported a significant relationship for observer ratings but not with client or therapist ratings (Fenton et al. 2001), whereas current findings add weight to the utility of therapist ratings as a significant predictor. However as measures of client and observer ratings were not available for investigation in this study comparison between therapist, client and observer ratings of alliance and treatment outcome, and the examination of rater bias was not possible. Inclusion of therapist, client and independent alliance ratings is recommended for future research.
Longitudinal research allows greater insight into the time order of variables and thus causal inferences are more able to be made (Bryman 2004). Measurements taken at three timepoints enabled the current study to investigate the role of early treatment response in changes in drinking patterns (PDA and DDD). However, having several points in time at which clients need to be interviewed increased the likelihood of missing data as some clients were hard to locate or unavailable, thus further reducing the strength of findings. Also, that dependence and alcohol-related problems (LDQ and APO) were not measured at 6 weeks meant that this study was not able to control for early treatment response on these aspects of clients' drinking profile. Furthermore, participants were in the mild to moderate range of alcohol dependence and so findings may not apply to those with a greater severity of dependence.

The current findings give insight into the role of TA in an outpatient alcohol dependent population, an area for which there is a relative paucity of research. It has been suggested that the role TA plays in treatment is likely to change over time (Conners et al. 1997; Tunis et al. 1995). The current study looked at the relationship with alcohol use at two points in time, 6 weeks and 6 months, thus offering insight with regard to differences that may occur between early treatment response and post treatment outcomes. In controlling for early treatment response the current study found no evidence that TA is associated with the maintenance of change, or improvement at follow-up, although we were unable to control for early response when using alcohol problems (APO) as the outcome measure.

Acknowledgements The authors would like to thank all clients who took part in the study. Thanks also to Professor Chris Frampton (University of Otago) for statistical advice. Funding was provided by the Health Research Council grant 96/328 and by the Alcohol Advisory Council of New Zealand. Ethical approval was granted by the Canterbury Regional Ethics Committee.

References


Appendix 2: PsycINFO Search Strategy

1 therapeutic alliance/ (1475)
2 therapeutic alliance.tw. (2198)
3 working alliance.tw. (994)
4 therapeutic relationship$.tw. (3980)
5 1 or 2 or 3 or 4 (7020)
6 comorbidity/ (10588)
7 comorbid$.tw. (14606)
8 dual diagnosis/ (1177)
9 dual diagnosis.tw. (1333)
10 coexisting disorder$.tw. (42)
11 6 or 7 or 8 or 9 or 10 (18524)
12 alcoholism/ (19008)
13 alcohol abuse/ (8728)
14 exp Drug Dependency/ (14417)
15 drug abuse/ (21632)
16 substance abuse.tw. (16470)
17 alcohol$.tw. (24792)
18 12 or 13 or 14 or 15 or 16 or 17 (69336)
19 major depression/ (49970)
20 depress$.tw. (129457)
21 19 or 20 (130279)
22 5 and 11 and 18 and 21 (5)
23 5 and 11 (86)
24 limit 23 to (human and english language and yr="1981 - 2007") (82)
25 from 24 keep 1-82 (82)
Appendix 3: Material pertaining to the BTP study

- Timeline Followback
- Leeds Dependence Questionnaire
- Alcohol Problem Questionnaire
- Readiness to Change Questionnaire (New Zealand Version)
- Therapist Rating of Therapy
BRIEF TREATMENT PROGRAMME FOR ALCOHOL DEPENDENCE
ALCOHOL USE (AND OTHER THINGS) QUESTIONNAIRE (AUQ)

<table>
<thead>
<tr>
<th>ID</th>
<th>DOB</th>
<th>ASSESSOR</th>
<th>DATE OF SESSION</th>
</tr>
</thead>
</table>

1. For period from to

2. Number of days in this assessment period

3. This interview was conducted
   (a) on site
   (b) by telephone
   (c) home visit
   (d) other location

Now, as in the interviews you’ve had before, I’d like to remind you that whatever you say here is confidential. I am going to be asking some specific questions about the period of time from up until yesterday. [PLACE CALENDER IN FRONT OF SUBJECT]

Here is a calender to help you remember this period of time. I realize that this is a long period of time to remember things that happened, so we will use this calender to help you identify events that occurred during this period. Were there any particularly memorable things that happened during this time such as birthdays, accidents, anniversaries, parties, things like that? [RECORD ON CALENDER]

Now the rest of the questions that I will ask you are also about this time period from up until yesterday. I’ll be asking about your drinking in a few minutes, but first I’d like to know about a few other things. Take your time and if you’re not sure what I am asking or what I mean by a particular question, let me know. OK?

TREATMENT/PRISON/LIVING EXPERIENCES

During this period, how many days did you spend in a hospital or treatment programme where you stayed overnight? [MARK DAYS ON CALENDER]

4. Total number of inpatient/residential days for medical problems

5. Total number of inpatient/residential days for detoxification

6. Total number of inpatient/residential days for alcohol/drug treatment

7. Total number of inpatient/residential days for emotional/psych problems

8. Total number of inpatient/residential treatment days
   [Sum of 4. + 5. + 6. + 7.]

During this period, did you spend any time in prison? [MARK DAYS ON CALENDER]

9. Total number of days incarcerated

10. Total number of days in institutions
    [Sum of 8. + 9.]
During this period, where did you live? How many days did you live in:
[DO NOT RECORD ON CALENDAR UNLESS USEFUL AS MEMORY AIDS]

11. Total number of days in own house, flat, room
(subject or subjects spouse/partner owned or paid rent/mortgage or boarding)

12. Total number of days living with others (no rent)

13. Total number of days living in halfway house

14. Total number of days homeless
("on the road" or living in shelters or missions)

Check 2. = 10. + 11. + 12. + 13. + 14.

During this period, how many days were there (not including days in hospital, detox, treatment or prison) when you saw a doctor, nurse or other health professional for any kind of medical care?
[DO NOT RECORD ON CALENDAR UNLESS USEFUL AS MEMORY AIDS]

15. Total number of days seen for medical care

During this period (not including days in hospital, detox, treatment or prison), how many days did you have a session with a counsellor or therapist?
[DO NOT RECORD ON CALENDAR UNLESS USEFUL AS MEMORY AIDS]

16. Total number of days for alcohol and drug problems

17. Total number of days of emotional/psych problems

During this period (not including days in hospital, detox, treatment or prison), on how many days did you attend a meeting of Alcoholics Anonymous, Narcotics Anonymous, other 12 Step Meeting for A&D problems or any other alcohol and drug self-help group such as Rational Recovery?
[DO NOT RECORD ON CALENDAR UNLESS USEFUL AS MEMORY AIDS]

18. Total number of days attended an AA meeting

19. Total number of days attended an NA meeting

20. Total number of days attended another 12 Step meeting for A&D problems

21. Total number of days attended a RR meeting

22. Total number of days attended any other A&D self-help meeting

OTHER ACTIVITIES

[DO NOT ENTER ACTIVITY DAYS ON THE CALENDAR UNLESS THEY APPEAR TO BE OF VALUE FOR RECALLING DRINKING]

23. How many days have you been paid for working during this period?

24. How many days have you been in school, polytech or other training/education during this period?
MEDICATIONS

During this period (not including days in hospital, detox, treatment or prison), on how many days did you take any medications prescribed by a doctor?
[DO NOT ENTER MEDICATION DAYS ON THE CALENDAR UNLESS THEY APPEAR TO BE OF MEMORY VALUE]

25. To treat a medical problem
26. To prevent you from drinking (Antabuse or Calcium Carbimide)
27. To help with emotional/psych problems

PERIODS OF ABSTINENCE

Now, I'd like to ask you about your drinking during this period. The things already recorded on the calendar here may help you to remember better. First of all, were there periods of days when you had nothing to drink at all?
[MARK ALL ABSTINENT DAYS AS "A" ON CALENDAR. IF THE SUBJECT WAS MOSTLY ABSTINENT, IT MAY BE EASIER TO ASK ABOUT DRINKING DAYS FIRST AND RECORD THESE ON THE CALENDAR]

28. Date of first drink during the period
29. Date of last drink during the period
30. Total number of abstinent days during the period

DRINKING DAYS DURING TYPICAL WEEKS OF REGULAR DRINKING PATTERN

During this period of time, when you were drinking, was your pattern of drinking at all similar from one week to the next, at least for a few of these weeks? Which weeks were these? [RECORD ON THE MONDAY OF THE CALENDAR WITH A "T" FOR "TYPICAL"] Could you describe for me a usual or typical week of drinking?

31. During these typical weeks, let's start with weekdays - Monday through to Friday. On how many of these days would you drink 6 or more standard drinks for men, 4 or more standard drinks for women [SHOW STANDARD DRINK CHART] [RECORD UNSAFE DRINKING DAYS AS "U" AND SAFE DRINKING DAYS AS "S"]

32. What about Saturdays and Sundays during these typical weeks? Would you typically drink 6 or more standard drinks for men, 4 or more standard drinks for women [SHOW STANDARD DRINK CHART] [RECORD UNSAFE DRINKING DAYS AS "U" AND SAFE DRINKING DAYS AS "S"]
DRINKING DAYS DURING OTHER THAN TYPICAL DRINKING WEEKS

IF THERE WAS A PATTERN OF TYPICAL DRINKING IDENTIFIED
Now that we have your regular drinking pattern, I'd like you to tell me about the weeks when your drinking was different from this pattern. [RECORD ON THE MONDAY OF THE CALENDER WITH "AT" FOR "ATYPICAL"]

Work through each atypical week of the calendar systematically.

33. During this atypical week, on how many of the days would you drink 6 or more standard drinks for men, 4 or more standard drinks for women [SHOW STAND DRINK CHART] [RECORD UNSAFE DRINKING DAYS AS "U" AND SAFE DRINKING DAYS AS "S"]

IF THERE WAS NO PATTERN OF TYPICAL DRINKING IDENTIFIED
If you didn’t have a regular pattern of drinking from week to week, tell me about the times when you did drink during the period on this calendar.

Work systematically through the calender, firstly identifying these episodic periods of drinking and record unsafe drinking days as "U" and safe drinking days as "S" during these periods.

34. Date of first unsafe drinking day during the period
35. Date of last unsafe drinking day during the period
36. Total number of unsafe drinking days during the period
37. Total number of safe drinking days during the period
Check 2. = 10.+ 30.+ 36.+ 37.
38. Of the total number of unsafe drinking days, how many of these did the subject drink 10 or more standard drinks ?
39. What is the largest number of standard drinks of alcohol the subject drank on one day during this period?
40. How many standard drinks of alcohol did the subject use during the heaviest week of drinking during this period?
41. When neither in hospital, detox, treatment or prison, nor completely abstinent from alcohol, how many standard drinks of alcohol did the subject use during a typical drinking week during this period?
USE OF UNPRESCRIBED DRUGS

During this period....

42. How many days did you smoke nicotine cigarettes?
43. How many days did you smoke 6 or more nicotine cigarettes?
44. How many days did you use cannabis?
45. How many days were you stoned for 6 or more hours?
46. How many days did you use over-the-counter analgesics?
(such as aspirin, panadol etc, exclude codeine based used for recreational use)
47. How many days did you use any other drugs? (Recreational Use)
List all other drugs used and number of days each was used

GAMBLING

During this period....

48. How many days did you gamble with any money?
49. How many days did you gamble with $20 or more?
50. How many days did you gamble with $100 or more?

*****************************************************************************
AUQCHECK

ON CHECKING WITH THE SUBJECT'S NOMINATED SIGNIFICANT OTHER ON QUESTIONS 36 - 50, WERE THERE ANY ANSWERS RECORDED ABOVE THAT THE SIGNIFICANT OTHER THINKS IS FALSE

YES
NO

IF YES, PLEASE SPECIFY
**LDQ**

- Think about the last six months
- Think about your alcohol use
- Tick the answer that’s most appropriate to you

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Sometime</th>
<th>Often</th>
<th>Nearly</th>
<th>Always</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Did you find yourself thinking about when you would next be able to have another drink?</td>
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<td>2</td>
<td>Was drinking more important than anything else you might do during the day?</td>
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<td>3</td>
<td>Did you feel that your need for drink is too strong to control?</td>
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<td>4</td>
<td>Did you plan your days around getting and taking drink?</td>
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<td>5</td>
<td>Did you drink in a particular way in order to increase the effect it gives you?</td>
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<td>6</td>
<td>Did you take drink morning, afternoon and evening?</td>
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<td>7</td>
<td>Did you feel you had to carry on drinking once you started?</td>
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<td>8</td>
<td>Was getting the effect you want more important than the particular drink you used?</td>
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<td>9</td>
<td>Did you want to take more drink when the effect started to wear off?</td>
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<tr>
<td>10</td>
<td>Did you find it difficult to cope with life without drink?</td>
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</table>
# ALCOHOL PROBLEMS QUESTIONNAIRE (APQ)

We would like to find out if you have experienced any of the difficulties which other people with alcohol problems sometimes have.

Below you will find a list of questions which we would like you to answer. Read each question carefully and answer either YES or NO by putting a TICK in the appropriate box.

Please answer all the questions which apply to you. All the questions apply to your experiences in the Last Six Months.

<table>
<thead>
<tr>
<th>IN THE LAST SIX MONTHS:</th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td>1. Have you tended to drink on your own more than you used to?</td>
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<td>2. Have you worried about meeting your friends again the day after a drinking session?</td>
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<td>3. Have you spent more time with drinking friends than other kinds of friends?</td>
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<tr>
<td>4. Have your friends criticised you for drinking too much?</td>
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<td>5. Have you had any debts?</td>
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<td>6. Have you pawned any of your belongings to buy alcohol?</td>
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<tr>
<td>7. Do you find yourself making excuses about money?</td>
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<tr>
<td>8. Have you been caught out lying about money?</td>
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<td>9. Have you been in trouble with the police due to your drinking?</td>
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<td>10. Have you lost your driving licence for drinking and driving?</td>
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<td>11. Have you been in prison?</td>
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<td>12. Have you been physically sick after drinking?</td>
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<td>13. Have you had diarrhoea after a drinking session?</td>
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<td>14. Have you had pains in your stomach after a drinking session?</td>
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<tr>
<td>15. Have you had ‘pins and needles’ in your fingers or toes?</td>
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<tr>
<td>16. Have you had any accidents, needing hospital treatment after drinking?</td>
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<td>17. Have you lost any weight?</td>
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<td>18. Have you been neglecting yourself physically?</td>
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<td></td>
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<td>19. Have you failed to wash for several days at a time?</td>
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<td>20. Have you felt depressed for more than a week?</td>
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<td>21. Have you felt so depressed that you have felt like doing away with yourself?</td>
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<tr>
<td>22. Have you given up any hobbies you once enjoyed because of drinking?</td>
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<tr>
<td>23. Do you find it hard to get the same enjoyment from your usual interests?</td>
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</table>

Please make sure you have answered all the questions which apply to you.
RCQ

Please read the sentences below carefully. For each one please tick the answer that best describes how you feel.

1. My drinking is okay as it is.

2. I am trying to drink less than I used to.

3. I enjoy my drinking, but sometimes I drink too much.

4. I should cut down on my drinking.

5. It's a waste of time thinking about my drinking.

6. I have just recently changed my drinking habits.

7. Anyone can talk about wanting to do something about drinking, but I'm actually doing something about it.

8. I am at the stage where I should think about drinking less alcohol.

9. My drinking is a problem.

10. It's alright for me to keep drinking as I do now.

11. I am actually changing my drinking habits right now.

12. My life would still be the same, even if I drank less.
THERAPIST RATING OF THERAPY

ID NUMBER

DATE

1. How many counselling sessions did this patient complete?

2. Overall, how engaged was this patient with the therapy?

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<th>8</th>
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<th>10</th>
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<tbody>
<tr>
<td>not at all</td>
<td>very engaged</td>
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3. Overall, how much rapport did you have with this patient during the therapy?

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<tr>
<td>none</td>
<td>very much</td>
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4. Overall, how much did you enjoy being involved in the therapy with this patient?

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<th>10</th>
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<tbody>
<tr>
<td>not at all</td>
<td>very much</td>
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5. Overall, how stressful (ie frustrated/anxious/dissatisfied) did you find the therapy with this patient?

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<tbody>
<tr>
<td>not at all</td>
<td>very stressful</td>
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6. Overall, how well did this patient seem to grasp the concept of the particular therapy?

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<tbody>
<tr>
<td>not at all</td>
<td>very well</td>
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7. Overall, how effective do you think the therapy was for this patient, in terms of reducing their drinking?

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<tbody>
<tr>
<td>not at all</td>
<td>very effective</td>
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</table>

295
Appendix 4: Material pertaining to the TEAM study

• Montgomery and Asberg Depression Rating Scale
• Timeline Followback
• Symptom Checklist 90 Revised
• Leeds Dependency Questionnaire
• Readiness to Change Questionnaire–Treatment Version
• Situational Confidence Questionnaire
• Working Alliance Inventory – Therapist Version
• Working Alliance Inventory – Client Version
MONTGOMERY AND ASBERG DEPRESSION RATING SCALE
(MADRS)

Instructions to rater:
(Rate mood over past week)
The rating should be based on a clinical interview moving from broadly phrased questions about symptoms to more detailed ones which allow a precise rating of severity. The rater must decide whether the rating lies on the defined scale steps (0; 2; 4; 6) or between them (1; 3; 5). It is important to remember that it is only on rare occasions that a depressed patient is encountered who cannot be rated on the items in the scale. If definite answers cannot be elicited from the patient all relevant cues as well as information from other sources should be used as a basis for rating in line with customary clinical practice.

1. Apparent Sadness
   Representing despondency, gloom and despair, (more than just ordinary low spirits) reflected in speech, facial expression and posture. Rate by depth and inability to brighten up.

   0  No sadness.
   1  Looks dispirited but does brighten up without difficulty.
   2  Appears sad and unhappy most of the time.
   3  Looks miserable all the time. Extremely despondent.

2. Reported sadness
   Representing reports of depressed mood, regardless of whether it is reflected in appearance or not. Includes low spirits, despondency or the feeling of being beyond help and without hope.

   0  Occasional sadness in keeping with the circumstances.
   1  Sad or low but brightens up without difficulty.
   2  Pervasive feelings of sadness or gloominess. The mood is still influenced by external circumstances.
   3  Continuous or unvarying sadness, misery or despondency.

3. Inner tension
   Representing feelings of ill defined discomfort, edginess, inner turmoil, mental tension mounting to either panic, dread or anguish. Rate according to intensity, frequency, duration and the extent of reassurance called for.

   0  Placid. Only fleeting inner tension.
   1  Occasional feelings of edginess and ill-defined discomfort.
   2  Continuous feelings of inner tension or intermittent panic which the patient can only master with some difficulty.
   3  Unrelenting dread or anguish. Overwhelming panic.

4a. Reduced sleep
   Representing the experience of reduced duration or depth of sleep compared to the patient's own normal pattern when well.

   0  Sleeps as usual.
   1  Slight difficulty dropping off to sleep or slightly reduced, light or fitful sleep.
   2  Sleep reduced or broken by at least two hours.
   3  Less than two or three hours sleep.

4b. Increased sleep
   Representing the experience of increased sleep compared to the patient's own normal pattern when well.

   0  Sleeps as usual.
   1  Oversleeping by 2 hours per day.
   2  Oversleeping by 6 hours per day.
   3  Sleeping 18 hours or more a day.

5a. Reduced appetite
   Representing the feeling of a loss of appetite compared with when well. Rate by loss of desire for food or the need to force oneself to eat.

   0  Normal or increased appetite
   1  Slightly reduced appetite.
   2  No appetite. Food is tasteless.
   3  Needs persuasion to eat at all.
5b. Increased appetite
Representing the feeling of an increase in appetite compared with when well.
0 Normal appetite.
1 Slightly increased appetite.
2 Markedly increased appetite.
3 Greatly increased appetite and unable to eat.

9. Pessimistic thoughts
Representing thoughts of guilt, inferiority, self-reproach, sinfulness, remorse and ruin.
0 No pessimistic thoughts.
1 Fluctuating ideas of failure, self-reproach or self-depreciation.
2 Persistent self-accusations or definite but still rational ideas of guilt or sin. Increasingly pessimistic about the future.
3 Delusions of ruin, remorse or unredeemable sin. Self-accusations which are absurd and unshakeable.

6. Concentration difficulties
Representing difficulties in collecting one’s thoughts mounting to incapacitating lack of concentration. Rate according to intensity, frequency and degree of incapacity produced.
0 No difficulties in concentrating.
1 Occasional difficulties in collecting one’s thoughts.
2 Difficulties in concentrating and sustaining thought which reduces ability to read or hold a conversation.
3 Unable to read or converse without great difficulty.

10. Suicidal thoughts
Representing the feeling that life is not worth living, that a natural death would be welcome, suicidal thoughts and preparations for suicide. Suicidal attempts should not in themselves influence the ratings.
0 Enjoys life or takes it as it comes.
1 Weary of life. Only fleeting suicidal thoughts.
2 Probably better off dead. Suicidal thoughts are common and suicide is considered as a possible solution, but without specific plans or intention.
3 Explicit plans for suicide when there is an opportunity. Active preparation for suicide.

7. Lassitude
Representing a difficulty getting started or slowness initiating and performing everyday activities.
0 Hardly any difficulty in getting started. No sluggishness.
1 Difficulties in starting activities.
2 Difficulties in starting simple routine activities which are carried out with effort.
3 Complete lassitude. Unable to do anything without help.

8. Inability to feel
Representing the subjective experience of reduced interest in the surroundings or activities that normally give pleasure. The ability to react with adequate emotion to circumstances or people is reduced.
0 Normal interest in the surroundings and in other people.
1 Reduced ability to enjoy usual interests.
2 Loss of interest in the surroundings. Loss of feelings for friends and acquaintances.
3 The experience of being emotionally paralysed, inability to feel anger, grief or pleasure and a complete or even painful failure to feel for close relatives and friends.

<table>
<thead>
<tr>
<th>Usual Score:</th>
<th>(sum of scores on each item, i.e. Only use 4a &amp; 5a):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modified Total Score:</td>
<td>(use highest of 4a or 4b, and of 5a or 5b)</td>
</tr>
</tbody>
</table>

GLOBAL CLINICAL EVALUATION:
SEVERITY OF ILLNESS
(1=normal, not ill, 2=slightly ill, 3=mildly ill, 4=moderately ill, 5=moderately severely ill, 6=severely ill)

GLOBAL IMPRESSION
(Compared to condition on admission: 1=very much improved, 2=much improved, 3=slightly improved, 4=no change, 5=slightly worse, 6=much worse, 7=very much worse)
TIME - LINE FOLLOWBACK (TLFB)

1. For period from _____ to _____ (yesterday)

I am going to be asking specific questions about the last 12 weeks, up to and including yesterday. [PLACE CALENDER IN FRONT OF PERSON].

Here is a calendar to help you remember the last 12 weeks. Let's start by writing down events or routines that will help you remember what you did over this time. Did you have any major good or bad things happen during this time such as holidays, trips, birthdays, accidents, anniversaries, parties, things to do with children, family/whanau, your partner or friends, legal things such as seeing a probation officer or going to court, attending a self help meeting such as AA on NA… things like that? [RECORD ON CALENDER AS A MEMORY AID]

1. **TREATMENT/PRISON/LIVING EXPERIENCES**

During this period, how many days did you spend in hospital or a treatment programme where you stayed overnight [MARK DAYS ON CALENDER]

2. Total number of inpatient/residential days for medical problems =…..

3. Total number of inpatient/residential days for detoxification =…..

4. Total number of inpatient/residential days for alcohol/drug treatment =…..

5. Total number of inpatient/residential days for emotional/psych problems =…..

6. Total number of inpatient residential treatment days

   [Sum of 2. 3. + 4. + 5. ]………………………….Total =

During this period, did you spend any time in prison?

7. Total number of days in prison or other form of custody =……..

8. Total number of days in institutions [Sum of 6. + 7. ] Total =
PERIODS OF ABSTINENCE – APART FROM MEDICATIONS USED AS PRESCRIBED

Now I’d like to ask you about your alcohol and drug use during the last 12 weeks. The things already recorded on the calendar may help you to remember more easily. First of all were there periods when you had nothing except prescribed medications? [MARK ALL ABSTINENT DAYS AS “A” ON CALENDER].

ALCOHOL AND OTHER DRUG USE DURING THE LAST THREE WEEKS

Now we need to go back day by day and week by week and record all of your alcohol and other drug use If you took “extra” of any prescribed medication ie more than the dose prescribed or bought extra then we’ll record that too.

First of all we will concentrate on the last three weeks including yesterday. Take your time. It may help to think about what you did each day from the time of getting up to going to bed and to use the calendar as a reminder. [SURVEY EACH DAY IN TURN SYSTEMATICALLY COVERING ALL THE DRUG CLASSES LISTED BELOW OR SURVEY EACH OF THE DRUG CLASSES IN TURN FOR THE WHOLE TWO WEEKS – WHATEVER IS EASIEST AND MOST APPROPRIATE FOR EACH PARTICIPANT

- Alcohol
- Cannabis
- Stimulants
- Sedatives
- Opioids
- Hallucinogens
- Inhalants
- Other

Once number of alcohol use days and average number of standard drinks per drinking day have been calculated ask participant on how many of these drinking days they consumed eight or more standard drinks (for men) and on how many days they consumed six or more standard drinks (for women). Use Standard Drink Conversion Chart as a visual aid.

ALCOHOL AND DRUG USE DURING THE EARLIER NINE WEEKS

Now thinking back to the nine weeks prior to the three we have just covered, and using the calendar as a reminder. Did you use any drugs in addition to the ones you used in the last three week? (encourage participant to consider each of the additional nine weeks separately)

When all recording is finished ask the participant to take his or her time to look over what is recorded and think if there is any alcohol and drug use that has been missed.
<table>
<thead>
<tr>
<th>Substance</th>
<th>Last Three Weeks (21 days if no institutional days)</th>
<th>Previous Nine Weeks (63 days if no institutional days)</th>
<th>Significant Other (tick to confirm self-report)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drinks Per Drinking Day</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No of use days</td>
<td>Abstinent days</td>
<td>No of use days</td>
<td>Abstinent days</td>
</tr>
<tr>
<td>Alcohol Using Days</td>
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<tr>
<td>Alcohol Heavy Using Days (8+SD for men, 6+SD for women)</td>
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<tr>
<td>Cannabis</td>
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<tr>
<td>Stimulants</td>
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<tr>
<td>Sedatives</td>
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<td>Opioids</td>
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<td>Hallucinogens</td>
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<tr>
<td>Inhalants</td>
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<tr>
<td>Other (specify)</td>
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<tr>
<td>Total Abstinence</td>
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</table>
Significant Other Interview

Please confirm drug use for each class of drugs by placing a tick or cross in the provided column of the Six Month Drug Use Chart.

Where there is a significant discrepancy please record below the nature of this discrepancy. Where this arises the subject should be re-contacted to clarify this. The SO may then need to be again re-contacted if the discrepancy has not been satisfactorily resolved. Please record below all information relevant to this process:
SCL – 90R

I’m going to read a list of problems and complaints that people sometimes have. Please listen carefully and tell me how much that problem has bothered or distressed you during the past week including today.

IN THE PAST WEEK HOW MUCH WERE YOU BOTHERED BY:  

<table>
<thead>
<tr>
<th>Problem</th>
<th>Not at all</th>
<th>A little bit</th>
<th>Moderately bit</th>
<th>Quite a bit</th>
<th>Extremely bit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Headaches ..................................................................................</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<tr>
<td>2. Nervousness or shakiness inside ............................................</td>
<td>1</td>
<td>2</td>
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<tr>
<td>3. Unwanted thoughts, words or ideas that won’t leave your mind ....</td>
<td>1</td>
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<td>4. Faintness or dizziness ................................................................</td>
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<tr>
<td>5. Loss of sexual interest or pleasure .......................................</td>
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<tr>
<td>6. Feeling critical of others ..................................................</td>
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<td>7. The idea that someone else can control your thoughts ...............</td>
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<tr>
<td>8. Feeling others are to blame for most of your troubles ..............</td>
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<tr>
<td>9. Trouble remembering things ..................................................</td>
<td>1</td>
<td>2</td>
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<td>10. Worried about sloppiness or carelessness ................................</td>
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<tr>
<td>11. Feeling easily annoyed or irritated ......................................</td>
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<tr>
<td>12. Pains in heart or chest .....................................................</td>
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<td>13. Feeling afraid in open spaces or on the streets ......................</td>
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<td>14. Feeling low in energy or slowed down ....................................</td>
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<td>15. Thoughts of ending your life ...............................................</td>
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<td>16. Hearing voices that other people do not hear ..........................</td>
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<td>17. Trembling .............................................................................</td>
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<td>18. Feeling that most people cannot be trusted ............................</td>
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</tr>
<tr>
<td>IN THE PAST WEEK HOW MUCH WERE YOU BOthered By:</td>
<td>Not at all</td>
<td>A little bit</td>
<td>Moderately</td>
<td>Quite a bit</td>
<td>Extremely</td>
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<tr>
<td>19. Poor appetite</td>
<td>1</td>
<td>2</td>
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<td>5</td>
</tr>
<tr>
<td>20. Crying easily</td>
<td>1</td>
<td>2</td>
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<tr>
<td>21. Feeling shy or uneasy with the opposite sex</td>
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<td>2</td>
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<tr>
<td>22. Feeling of being trapped or caught</td>
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<td>5</td>
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<tr>
<td>23. Suddenly scared for no reason</td>
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<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>24. Temper outbursts that you could not control</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>25. Feeling afraid to go out of your house alone</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<td>5</td>
</tr>
<tr>
<td>26. Blaming yourself for things</td>
<td>1</td>
<td>2</td>
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<td>4</td>
<td>5</td>
</tr>
<tr>
<td>27. Pains in lower back</td>
<td>1</td>
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<td>4</td>
<td>5</td>
</tr>
<tr>
<td>28. Feeling blocked in getting things done</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<td>5</td>
</tr>
<tr>
<td>29. Feeling lonely</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>30. Feeling blue</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>31. Worrying too much about things</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>32. Feeling no interest in things</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>33. Feeling fearful</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>34. Your feelings being easily hurt</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>35. Other people being aware of your private thoughts</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>36. Feeling others do not understand you or are unsympathetic</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>37. Feeling that people are unfriendly or dislike you</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>38. Having to do things very slowly to ensure correctness</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Number</td>
<td>Description</td>
<td>Not at all</td>
<td>A little bit</td>
<td>Moderately bit</td>
<td>Quite a bit</td>
</tr>
<tr>
<td>--------</td>
<td>------------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>39</td>
<td>Heart pounding or racing</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>40</td>
<td>Nausea or upset stomach</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>41</td>
<td>Feeling inferior to others</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>42</td>
<td>Soreness of your muscles</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>43</td>
<td>Feeling that you are watched or talked about by others</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>44</td>
<td>Trouble falling asleep</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>45</td>
<td>Having to check and double-check what you do</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>46</td>
<td>Difficulty making decisions</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>47</td>
<td>Feeling afraid to travel on buses, subways or trains</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>48</td>
<td>Trouble getting your breath</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>49</td>
<td>Hot or cold spells</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>50</td>
<td>Having to avoid certain things, places or activities because they frighten you</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>51</td>
<td>Your mind going blank</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>52</td>
<td>Numbness or tingling in parts of your body</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>53</td>
<td>A lump in your throat</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>54</td>
<td>Feeling hopeless about the future</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>55</td>
<td>Trouble concentrating</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>56</td>
<td>Feeling weak in parts of your body</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>57</td>
<td>Feeling tense or keyed up</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>58</td>
<td>Heavy feelings in your arms or legs</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
## IN THE PAST WEEK HOW MUCH WERE YOU BOTHERED BY:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Not at all</th>
<th>A little bit</th>
<th>Moderately</th>
<th>Quite a bit</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td>59</td>
<td>Thoughts of death or dying</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>60</td>
<td>Overeating</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>61</td>
<td>Feeling uneasy when people are watching or talking about you</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>62</td>
<td>Having thoughts that are not your own</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>63</td>
<td>Having urges to beat, injure or harm someone</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>64</td>
<td>Awakening in the early morning</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>65</td>
<td>Having to repeat the same actions such as touching, counting, washing</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>66</td>
<td>Sleep that is restless or disturbed</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>67</td>
<td>Having urges to break or smash things</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>68</td>
<td>Having ideas or beliefs that others do not share</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>69</td>
<td>Feeling very self-conscious with others</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>70</td>
<td>Feeling uneasy in crowds such as shopping or at a movie</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>71</td>
<td>Feeling everything is an effort</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>72</td>
<td>Spells of terror or panic</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>73</td>
<td>Feeling uncomfortable about eating or drinking in public</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>74</td>
<td>Getting into frequent arguments</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>75</td>
<td>Feeling nervous when you are left alone</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>76</td>
<td>Others not giving you proper credit for your achievements</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>77</td>
<td>Feeling lonely when you are with people</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>78</td>
<td>Feeling so restless you couldn’t sit still</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
### IN THE PAST WEEK HOW MUCH WERE YOU BOTHERED BY:

<table>
<thead>
<tr>
<th>Question</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>79. Feelings of worthlessness</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>80. Feeling that familiar things are strange or unreal</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>81. Shouting or throwing things</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>82. Feeling afraid you will faint in public</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>83. Feeling that people will take advantage of you if you let them</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>84. Having thoughts about sex that bother you a lot</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>85. The idea that you should be punished for your sins</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>86. Feeling pushed to get things done</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>87. The idea that something serious is wrong with your body</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>88. Never feeling close to another person</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>89. Feelings of guilt</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>90. The idea that something is wrong with your mind</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>
THE LEEDS DEPENDENCE QUESTIONNAIRE

I’m now going to ask you about the importance of alcohol in your life. Think about your drinking in the last week you were drinking heavily and answer each question by telling me if this is true never, sometimes, often or nearly always.

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Sometimes</th>
<th>Often</th>
<th>Nearly always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Do you find yourself thinking about when you will next be able to have another drink?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2. Is drinking more important than anything else you might do during the day?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3. Do you feel that your need for drink is too strong to control?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4. Do you plan your days around getting and drinking alcohol?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5. Do you drink in a particular way in order to increase the effect it gives you?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6. Do you take drink morning, afternoon and evening?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7. Do you feel you have to carry on drinking once you have started?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8. Is getting the effect you want more important than the particular drink you use?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>9. Do you want to take more drink when the effect starts to wear off?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>10. Do you find it difficult to cope with life without alcohol?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
# READINESS TO CHANGE QUESTIONNAIRE (TREATMENT VERSION - RCQ-TV)

The following questionnaire is designed to identify how you personally feel about your drinking right now. **Please think about your current situation and drinking habits**, even if you have given up drinking completely. Listen to each question below carefully and then decide whether you agree or disagree with the statements.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Unsure</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>I enjoy my drinking, but sometimes I drink too much.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2.</td>
<td>I am trying to stop drinking or drink less than I used to.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3.</td>
<td>It's a waste of time thinking about my drinking because I do not have a problem.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4.</td>
<td>Sometimes I think I should quit or cut down on my drinking.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5.</td>
<td>There is nothing seriously wrong with my drinking.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6.</td>
<td>My drinking is a problem sometimes.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7.</td>
<td>Anyone can talk about wanting to do something about their drinking, but I am actually doing something about it.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8.</td>
<td>I am a fairly normal drinker.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9.</td>
<td>I am weighing up the advantages and disadvantages of my present drinking habits.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10.</td>
<td>I am actually changing my drinking habits right now (either cutting down or quitting).</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11.</td>
<td>Giving up or drinking less alcohol would be pointless for me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>12.</td>
<td>I have started to carry out a plan to cut down or quit drinking.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>13.</td>
<td>There is nothing I really need to change about my drinking.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>14.</td>
<td>Sometimes I wonder if my drinking is out of control.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>15.</td>
<td>I am actively working on my drinking problem.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
SITUATIONAL CONFIDENCE QUESTIONNAIRE (SCQ-39)

Listed below are a number of situations or events in which some people experience a drinking problem.

**Imagine yourself as you are right now** in each of these situations. Indicate on the scale provided how confident you are that you would be able to resist the urge to drink heavily in that situation.

Circle 100 if you are 100 percent confident right now that you could resist the urge to drink heavily; 80 if you are 80 percent confident; 60 if you are 60 percent confident. If you are more unconfident than confident, circle 40 to indicate that you are only 40 percent confident that you could resist the urge to drink heavily; 20 for 20 percent confident; 0 if you have no confidence at all about that situation.

---

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>If I felt that I had let myself down</td>
<td>0</td>
<td>20</td>
<td>40</td>
<td>60</td>
</tr>
<tr>
<td>2.</td>
<td>If there were fights at home</td>
<td>0</td>
<td>20</td>
<td>40</td>
<td>60</td>
</tr>
<tr>
<td>3.</td>
<td>If I had trouble sleeping</td>
<td>0</td>
<td>20</td>
<td>40</td>
<td>60</td>
</tr>
<tr>
<td>4.</td>
<td>If I had an argument with a friend</td>
<td>0</td>
<td>20</td>
<td>40</td>
<td>60</td>
</tr>
<tr>
<td>5.</td>
<td>If other people didn’t seem to like me</td>
<td>0</td>
<td>20</td>
<td>40</td>
<td>60</td>
</tr>
<tr>
<td>6.</td>
<td>If I felt confident and relaxed</td>
<td>0</td>
<td>20</td>
<td>40</td>
<td>60</td>
</tr>
<tr>
<td>7.</td>
<td>If I were out with friends and they stopped by the bar for a drink</td>
<td>0</td>
<td>20</td>
<td>40</td>
<td>60</td>
</tr>
<tr>
<td>8.</td>
<td>If I were enjoying myself at a party and wanted to feel even better</td>
<td>0</td>
<td>20</td>
<td>40</td>
<td>60</td>
</tr>
<tr>
<td>9.</td>
<td>If I remembered how good it tasted</td>
<td>0</td>
<td>20</td>
<td>40</td>
<td>60</td>
</tr>
<tr>
<td>10.</td>
<td>If I convinced myself that I was a new person and could take a few drinks</td>
<td>0</td>
<td>20</td>
<td>40</td>
<td>60</td>
</tr>
<tr>
<td>11.</td>
<td>If I were afraid that things weren’t going to work out</td>
<td>0</td>
<td>20</td>
<td>40</td>
<td>60</td>
</tr>
<tr>
<td>12.</td>
<td>If other people interfered with my plans</td>
<td>0</td>
<td>20</td>
<td>40</td>
<td>60</td>
</tr>
<tr>
<td>13.</td>
<td>If I felt drowsy and wanted to stay alert</td>
<td>0</td>
<td>20</td>
<td>40</td>
<td>60</td>
</tr>
</tbody>
</table>
14. If there were problems with people at work
   0 20 40 60 80 100

15. If I felt uneasy in the presence of someone
   0 20 40 60 80 100

16. If everything were going well
   0 20 40 60 80 100

17. If I were at a party and other people were drinking
   0 20 40 60 80 100

18. If I wanted to celebrate with a friend
   0 20 40 60 80 100

19. If I passed by a liquor store
   0 20 40 60 80 100

20. If I wondered about my self-control over alcohol and felt like having a drink to try it out
   0 20 40 60 80 100

21. If I were angry at the way things had turned out
   0 20 40 60 80 100

22. If other people treated me unfairly
   0 20 40 60 80 100

23. If I felt nauseous
   0 20 40 60 80 100

24. If pressure built up at work because of the demands of my supervisor
   0 20 40 60 80 100

25. If someone criticized me
   0 20 40 60 80 100

26. If I felt satisfied with something I had done
   0 20 40 60 80 100

27. If I were relaxed with a good friend and wanted to have a good time
   0 20 40 60 80 100

28. If I were in a restaurant and the people with me ordered drinks
   0 20 40 60 80 100

29. If I unexpectedly found a bottle of my favourite booze
   0 20 40 60 80 100

30. If I started to think that just one drink could cause no harm
   0 20 40 60 80 100

31. If I felt confused about what I should do
   0 20 40 60 80 100
32. If I felt under a lot of pressure from family members at home
   0 20 40 60 80 100
33. If my stomach felt like it was tied in knots
   0 20 40 60 80 100
34. If I were not getting along well with others at work
   0 20 40 60 80 100
35. If other people around me made me tense
   0 20 40 60 80 100
36. If I were out with friends “on the town” and wanted to increase my enjoyment
   0 20 40 60 80 100
37. If I met a friend and he/she suggested that we have a drink together
   0 20 40 60 80 100
38. If I suddenly had an urge to drink
   0 20 40 60 80 100
39. If I wanted to prove to myself that I could take a few drinks without becoming drunk
   0 20 40 60 80 100
WORKING ALLIANCE INVENTORY

FORM C

Instructions

On the following pages there are sentences that describe some of the different ways a person might think or feel about his or her therapist (counselor). As you read the sentences mentally insert the name of your therapist (counselor) in place of ________________in the text.

Below each statement inside there is a seven point scale:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Never</td>
<td>Rarely</td>
<td>Occasionally</td>
<td>Sometimes</td>
<td>Often</td>
<td>Very Often</td>
<td>Always</td>
</tr>
</tbody>
</table>

If the statement describes the way you always feel (or think) circle the number 7; if it never applies to you circle the number 1. Use the numbers in between to describe the variations between these extremes.

THIS QUESTIONNAIRE IS CONFIDENTIAL. YOUR THERAPIST WILL NOT SEE YOUR ANSWERS.

Work fast, your first impressions are the ones we would like to see. (PLEASE DON'T FORGET TO RESPOND TO EVERY ITEM.)

© A.O. Horvath, 1981, 1982
1. I feel uncomfortable with _______. **WAIC1**

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Never</td>
<td>Rarely</td>
<td>Occasionally</td>
<td>Sometimes</td>
<td>Often</td>
<td>Very Often</td>
<td>Always</td>
</tr>
</tbody>
</table>

2. _______ and I agree about the things I will need to do in therapy to help improve my situation. **WAIC2**

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
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3. I am worried about the outcome of these sessions. **WAIC3**

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4. What I am doing in therapy gives me new ways of looking at my problem. **WAIC4**

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5. _______ and I understand each other. **WAIC5**

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6. _______ perceives accurately what my goals are. **WAIC6**

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7. I find what I am doing in therapy confusing. **WAIC7**

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8. I believe _______ likes me. **WAIC8**

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9. I wish __________ and I could clarify the purpose of our sessions. **WAIC9**

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10. I disagree with __________ about what I ought to get out of therapy. **WAIC10**

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11. I believe the time __________ and I are spending together is not spent efficiently. **WAIC11**

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12. __________ does not understand what I am trying to accomplish in therapy. **WAIC12**

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13. I am clear on what my responsibilities are in therapy. **WAIC13**

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14. The goals of these sessions are important for me. **WAIC14**

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15. I find what __________ and I are doing in therapy is unrelated to my concerns. **WAIC15**

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16. I feel that the things I do in therapy will help me to accomplish the changes that I want. **WAIC16**

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| 18. I am clear as to what __________ wants me to do in these sessions. | WAIC18 |
|---------------------------------------------------------------------|
| 1 Never | 2 Rarely | 3 Occasionally | 4 Sometimes | 5 Often | 6 Very Often | 7 Always |

| 19. __________ and I respect each other. | WAIC19 |
|------------------------------------------|
| 1 Never | 2 Rarely | 3 Occasionally | 4 Sometimes | 5 Often | 6 Very Often | 7 Always |

| 20. I feel that __________ is not totally honest about his/her feelings toward me. | WAIC20 |
|--------------------------------------------------------------------------------|
| 1 Never | 2 Rarely | 3 Occasionally | 4 Sometimes | 5 Often | 6 Very Often | 7 Always |

| 21. I am confident in __________'s ability to help me. | WAIC21 |
|------------------------------------------------------|
| 1 Never | 2 Rarely | 3 Occasionally | 4 Sometimes | 5 Often | 6 Very Often | 7 Always |

| 22. __________ and I are working towards mutually agreed upon goals. | WAIC22 |
|-------------------------------------------------------------------|
| 1 Never | 2 Rarely | 3 Occasionally | 4 Sometimes | 5 Often | 6 Very Often | 7 Always |

| 23. I feel that __________ appreciates me. | WAIC23 |
|------------------------------------------|
| 1 Never | 2 Rarely | 3 Occasionally | 4 Sometimes | 5 Often | 6 Very Often | 7 Always |

| 24. We agree on what is important for me to work on. | WAIC24 |
|-------------------------------------------------|
| 1 Never | 2 Rarely | 3 Occasionally | 4 Sometimes | 5 Often | 6 Very Often | 7 Always |
25. As a result of these sessions I am clearer as to how I might be able to change. **WAIC25**

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26. ________ and I trust one another. **WAIC26**

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27. ________ and I have different ideas on what my problems are. **WAIC27**

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28. My relationship with ________ is very important to me. **WAIC28**

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29. I have the feeling that if I say or do the wrong things, ________ will stop working with me. **WAIC29**

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30. ________ and I collaborate on setting goals for my therapy. **WAIC30**

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31. I am frustrated by the things I am doing in therapy. **WAIC31**

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32. We have established a good understanding of the kind of changes that would be good for me. **WAIC32**

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33. The things that _________ is asking me to do don't make sense.  **WAIC33**

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34. I don't know what to expect as a result of my therapy.  **WAIC34**

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35. I believe the way we are working with my problem is correct.  **WAIC35**

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36. I feel _________ cares about me even when I do things that he/she does not approve of.  **WAIC36**

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WORKING ALLIANCE INVENTORY
CLIENT FORM
(WAI-C)

Instructions: The following questions describe some of the different ways a person might think or feel about his/her TEAM clinical Case-manager/Counsellor. As the sentences are read to you, mentally insert the name of your TEAM Case-manager/Counsellor and provide the number between 1 & 7 that is most applicable. If the statement describes how you always think or feel then choose 7; if never applies to you choose 1; if sometimes applies choose 4 – use the numbers between to describe variations.

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This questionnaire is confidential and your Case-manager/Counsellor will not see your answers.

1. I feel uncomfortable with __________

2. __________ and I agree about the things I will need to do in therapy to help improve my situation

3. I am worried about the outcome of these sessions

4. What I am doing in therapy gives me new ways of looking at my problem

5. __________ and I understand each other

6. __________ perceives accurately what my goals are

7. I find what I am doing in therapy confusing

8. I believe __________ likes me

9. I wish __________ and I could clarify the purpose of our sessions

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12. __________ does not understand what I am trying to accomplish in therapy

13. I am clear on what my responsibilities are in therapy

14. The goals of these sessions are important to me
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</tr>
<tr>
<td>32.</td>
<td>We have established a good understanding of the kind of changes that would be good for me</td>
<td></td>
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</tr>
<tr>
<td>33.</td>
<td>The things _________ is asking me to do don’t make sense</td>
<td></td>
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</tr>
<tr>
<td>34.</td>
<td>I don’t know what to expect as the result of my therapy</td>
<td></td>
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</tr>
<tr>
<td>35.</td>
<td>I believe the way we are working with my problem is correct</td>
<td></td>
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</tr>
<tr>
<td>36.</td>
<td>I feel _________ cares about me even when I do things that he/she does not approve of</td>
<td></td>
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</tr>
</tbody>
</table>
Appendix 5: Ethics letter of approval for the TEAM study

Health and Disability Ethics Committees

11 September 2006

Associate Professor D Sellman
National Centre for Treatment Development
Christchurch School of Medicine
P O Box 4345
Christchurch

Att: Assoc Prof D Sellman

Dear Doug

MEC/05/12/170
Treatment Evaluation of Alcohol and Mood (TEAM) Study

Thank you for your letter dated 18 April 2006, enclosing the revised recontact Consent form.

The Chairperson of the Multi-region Ethics Committee has reviewed the letter, and approved the following:

Approved documents:
Recontact consent form version 2, dated 25 July 2006, for Dr Simon Adamson, Christchurch School of Medicine and Health Sciences

Ongoing ethical approval of the above study is confirmed under the delegated authority of the Chairperson.

Please quote the above ethics committee reference number in all correspondence.

Yours sincerely

Sue Fish
Joint Administrator, Multi-region Ethics Committee
Ministry of Health
DDI: 04 470 0648
Fax: 04 468 2191

http://www.newhealth.govt.nz/ethicscommittees
mailto:Sue_Fish@moh.govt.nz

Administered by the Ministry of Health  Approved by the Health Research Council  http://www.newhealth.govt.nz/ethicscommittees
### Appendix 6: List of codes and definitions from the qualitative research

<table>
<thead>
<tr>
<th>Code</th>
<th>Code Name</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. PD</td>
<td>Pattern of development</td>
<td>Pattern of development for therapeutic relationship; includes strength and ruptures</td>
</tr>
<tr>
<td>2. 1stImpr</td>
<td>First impression</td>
<td>Impact of first meeting with therapist</td>
</tr>
<tr>
<td>3. Grad dev</td>
<td>Gradual development</td>
<td>The therapeutic relationship was seen to develop more gradually overtime</td>
</tr>
<tr>
<td>4. Comp</td>
<td>Comparative</td>
<td>Aspect of treatment being compared with previous treatment</td>
</tr>
<tr>
<td>5. CompW</td>
<td>Comparison within TEAM</td>
<td>Comparison of therapists within the TEAM study</td>
</tr>
<tr>
<td>6. LevelT</td>
<td>Level of therapy</td>
<td>Level and intensity of therapy in terms of exploration of issues</td>
</tr>
<tr>
<td>7. MD</td>
<td>Made a difference</td>
<td>Made a difference to drinking or mood</td>
</tr>
<tr>
<td>8. Liked</td>
<td>Liked</td>
<td>Something they liked about experience of TEAM</td>
</tr>
<tr>
<td>9. TQ</td>
<td>Therapist quality</td>
<td>Quality or trait of therapist commented on by client</td>
</tr>
<tr>
<td>10. TA</td>
<td>Therapist Action</td>
<td>Something the therapist did (within treatment session or beyond)</td>
</tr>
<tr>
<td>11. WM</td>
<td>What was missing</td>
<td>Something that was missing from treatment, including therapist quality, content, technique</td>
</tr>
<tr>
<td>12. RE</td>
<td>Response evoked</td>
<td>Something the client did in response to treatment process (mostly within)</td>
</tr>
<tr>
<td>13. CC</td>
<td>Client characteristic</td>
<td>Client characteristic which influenced the treatment experience</td>
</tr>
<tr>
<td>14. ExA</td>
<td>Ex-addict</td>
<td>Therapists’ personal history of recovery</td>
</tr>
<tr>
<td>15. B</td>
<td>Bond</td>
<td>Relationship bond or connection</td>
</tr>
<tr>
<td>16. Task</td>
<td>Task</td>
<td>As per WAI working definition (refer section 1.3.1)</td>
</tr>
<tr>
<td>17. Goal</td>
<td>Goal</td>
<td>As per WAI working definition (refer section 1.3.1)</td>
</tr>
<tr>
<td>18. U</td>
<td>Understood</td>
<td>Experience (or not) of feeling understood</td>
</tr>
<tr>
<td>19. Behav</td>
<td>Behaviour change</td>
<td>Behaviour change that made a difference to outcome or mood</td>
</tr>
<tr>
<td>20. Cog</td>
<td>Cognitive</td>
<td>Cognitive changes which occurred and/or made a difference to mood or drinking</td>
</tr>
<tr>
<td>21. Insight</td>
<td>Insight</td>
<td>Increased awareness and insight that may or may not be linked to change in drinking or mood</td>
</tr>
<tr>
<td>22. Educ/Info</td>
<td>Education and information</td>
<td>Provision of education and information linked to change in drinking and mood</td>
</tr>
<tr>
<td>23. ExTx</td>
<td>External to treatment</td>
<td>Something external to treatment that made a difference to drinking or mood</td>
</tr>
<tr>
<td>24. ExSS</td>
<td>External social support</td>
<td>External social support &amp; which made a difference to drinking or mood</td>
</tr>
<tr>
<td>25. ExP</td>
<td>External personal</td>
<td>Something personal &amp; external to treatment that made a difference to drinking or mood</td>
</tr>
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</tr>
<tr>
<td>26. Thr</td>
<td>Thorough</td>
<td>Thoroughness of treatment due to research component</td>
</tr>
<tr>
<td>27. Compre</td>
<td>Comprehensive</td>
<td>Comprehensiveness of treatment due to research component</td>
</tr>
<tr>
<td>28. Dir</td>
<td>Directive</td>
<td>Treatment focused only on treatment goals or less collaborative due to being part of research</td>
</tr>
<tr>
<td>29. ND</td>
<td>No difference</td>
<td>Research study did not perceive to have made a difference to treatment</td>
</tr>
<tr>
<td>30. Q</td>
<td>Questionnaire</td>
<td>Reference to questionnaires used as part of the research process</td>
</tr>
<tr>
<td>31. Med</td>
<td>Medication positive</td>
<td>Positive comment about medication</td>
</tr>
<tr>
<td>32. X med</td>
<td>Medication negative</td>
<td>Negative comment about medication</td>
</tr>
<tr>
<td>33. Med insight</td>
<td>Medication insight</td>
<td>Insight that was linked to medication</td>
</tr>
<tr>
<td>34. HR</td>
<td>Harm reduction</td>
<td>Change or strategy that reduced amount or impact of drinking or that reduced negative impact of mood</td>
</tr>
<tr>
<td>35. Var</td>
<td>Variance</td>
<td>Variance in experience of therapist or TEAM treatment</td>
</tr>
<tr>
<td>36. EQ</td>
<td>Earthquake</td>
<td>Impact of the Christchurch earthquake</td>
</tr>
<tr>
<td>37. Salient</td>
<td>Salient</td>
<td>Something that was central or strongly experienced or recalled</td>
</tr>
<tr>
<td>38. RP</td>
<td>Relapse prevention</td>
<td>Relapse prevention technique</td>
</tr>
<tr>
<td>39. IR</td>
<td>Influence of research</td>
<td>Influence the team research design and study protocols had on their experience</td>
</tr>
<tr>
<td>40. Alt</td>
<td>Altruism</td>
<td>Doing TEAM for potential greater good for others</td>
</tr>
<tr>
<td>41. Motiv</td>
<td>Motivation</td>
<td>Motivation to engage or remain in TEAM study</td>
</tr>
<tr>
<td>42. TxHx</td>
<td>Treatment History</td>
<td>Relates to previous treatment experience</td>
</tr>
<tr>
<td>43. TR</td>
<td>Therapeutic relationship</td>
<td>Relates to relationship with therapist</td>
</tr>
<tr>
<td>44. ImpR</td>
<td>Impact on researcher</td>
<td>Impact or response evoked by this comment on researcher</td>
</tr>
<tr>
<td>45. Expl</td>
<td>Exploration</td>
<td>Exploration of personal issues with the therapist during treatment session</td>
</tr>
<tr>
<td>46. Rlp</td>
<td>Relapse</td>
<td>Relapses and lapse during treatment or since treatment completion</td>
</tr>
<tr>
<td>47. Texp</td>
<td>Team experience</td>
<td>Broad comment on experience of being in TEAM study</td>
</tr>
<tr>
<td>48. SE</td>
<td>Self-efficacy</td>
<td>Improved sense of ability to make and sustain positive changes in drinking and mood, and in life more generally</td>
</tr>
<tr>
<td>49. Hol</td>
<td>Holistic</td>
<td>Discussion of change to broad areas of life more generally, e.g. exercise, diet, work, relationships</td>
</tr>
</tbody>
</table>