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The Role of Values and Personality in Therapeutic Alliance

by

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ABSTRACT

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THE ROLE OF VALUES AND PERSONALITY IN THERAPEUTIC ALLIANCE

Rebecca K Magill

The first section of this thesis submission consists of a systematic literature review regarding the relationship between personality constructs and therapeutic alliance. A total of 17 studies met inclusion criteria and these pertained to four personality constructs; values, interpersonal style, personality organisation, and quality of object relations. Alliance was measured in a variety of ways which made it difficult to compare studies but results were divided generally in terms of patient- or therapist- ratings. Research supported the link between interpersonal style and alliance, and was limited although relatively consistent regarding the correlation between alliance and the other personality constructs. There was a significant amount of variation in methodology, however, and where this was not the case it was a consequence of reuse of study data, which limits generalisability. The review identified a need for replication studies and descriptive rather than diagnostic measures, particularly regarding values and some forms of personality organisation.

The second part contains an empirical research paper pertaining to the role of values in therapeutic alliance. A total of 102 patients with depression diagnoses and 19 therapists contributed data with 75 matched dyads analysed. The hypothesis that there would be a mediation effect of alliance on dyad value similarity and depression outcome was not supported. There were, however, significant correlations between value similarity and alliance, and between alliance and outcome at six months. Clinical implications and future research are discussed.

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DECLARATION OF AUTHORSHIP

I, Rebecca Magill, declare that this thesis and the work presented in it are my own and has been generated by me as the result of my own original research.

The Role of Values and Personality in Therapeutic Alliance

I confirm that:

1. This work was done wholly or mainly while in candidature for a research degree at this University;
2. Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;
3. Where I have consulted the published work of others, this is always clearly attributed;
4. Where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work;
5. I have acknowledged all main sources of help;
6. Where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself;
7. None of this work has been published before submission.

Signed: ……

Date: ……

Acknowledgements

I would like to thank everyone who has encouraged and supported me throughout the generation of this thesis and throughout the doctorate in general.

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I am also so grateful to the therapists and participants who dedicated their time and efforts throughout the REFRAMED trial and beyond. The level of commitment to the therapeutic and research processes was truly impressive.

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A heartful thank you also goes to my family, friends, peers and colleagues who have encouraged, tolerated, sympathised, supported and inspired me throughout the thesis and doctorate journey. You know who you are.

Definitions and Abbreviations

List of abbreviations in tables.

AAS – Adult Attachment Scale (Collins & Read, 1990).

BCIS - Beck Cognitive Insight Scale (Beck, Baruch, Balter, Steer & Warman, 2004).

BDI – Beck Depression Inventory (Beck & Steer, 1987).

BSI – Brief Symptom Inventory (Derogatis, 1993).

CASF-P - Combined Alliance Short Form - Patient version (Hatcher & Barends, 1996).

COSE – Counselling Self-Estimate Inventory (Larson et al., 1992).

CPPS – Comparative Psychotherapy Process Scale (Blagys & Hilsenroth, 2000).

DDPRQ - Difficult Doctor-Patient Relationship Questionnaire (Hahn, Thompson, Wills, Stern & Budner, 1994).

DMRS – Defense Mechanism Ratings Scale (Perry, 1990).

DPCCQ - Development of Psychotherapists Common Core Questionnaire (Orlinsky et al., 1999).

BPD – Borderline Personality Disorder (American Psychiatric Assocation, 1994).

BPDSI-IV - Borderline Personality Disorder Severity Index (Arntz et al., 2003).

DSM – Diagnostic and Statistical Manual (American Psychiatric Association, 1994).

DSQ - Defensive Style Questionnaire (Andrews, Singh & Bond, 1993).

GAF – Global Assessment of Functioning (Hall, 1995).

GAS - Global Assessment Scale (Endicott, Spitzer, Fleiss & Cohen, 1984).

GSI – Global Severity Index of the SCL-90 (Derogatis, 1977).

IBS – Interpersonal Behavior Scale (Piper, Debbane & Garant, 1977).

IDS – Interpersonal Dependency Scale (Hirschfield et al., 1977).

IIP - Inventory of Interpersonal Problems (Alden, Wiggins & Pincus, 1990).

IPO - Inventory of Personality Organisation (Kernberg & Clarkin, 1995).

IQR – Interquartile Range.

Mini-SCID – Mini-Structured Clinical Interview for DSM-III-R (First, Gibbon, Williams & Spitzer, 1990).

MOA - Mutuality of Autonomy scale (Urist, 1977).

NEO-FFI – Neo Five Factor Inventory (Costa & McCrae, 1992).

NMSPOP - Norwegian Multisite Study of Process and Outcome of Psychotherapy (Havik et al., 1995)

OA-45 – Outcome questionnaire (Lambert et al., 2004).

PANSS – The Positive and Negative Syndrome Scale (Kay, Fiszbein & Opler, 1987).

PBI - Parental Bonding Instrument (Parker, Tuplin & Brown, 1979).

PFS - Psychodynamic Functioning Scale (Høglend et al., 2000).

PTSC - Psychological Treatment Compliance Subscale (Tsang, Fung & Corrigan, 2006).

QOSR - Quantity and Quality of Social Relations (NMSPOP, 1995).

QOR - Quality of Object Relations (Azim, Piper, Segal, Nixon & Duncan, 1991).

RIT – Rorschach Inkblot Test (Exner, 2003).

RSE – Rosenberg Self-Esteem Scale (Rosenberg, 1979).

SAS – Social Adjustment Scale (Weissman, Paykel, Siefel & Klerman, 1971).

SASB - Structural Analysis of Social Behavior (Benjamin, 1974).

SCID I – Structured Clinical Interview for DSM Disorders of Axis I (American Psychiatric Association, 1994).

SCID-II – Structured Clinical Interview for DSM Disorders of Axis II (American Psychiatric Association, 1994).

SCL-90 – Symptom Checklist 90 (Derogatis, 1977).

SCL-90-R - Symptom Checklist 90 Revised (Derogatis, 1983).

SD – Standard Deviation.

SFS - Social Functioning Scale (Birchwood, Smith, Cochrane, Wetton & Copestake, 1990).

SFT – Solution Focused Therapy (Pichot & Dolan, 2003).

SWLS – Satisfaction With Life Scale (Diener, Emmons, Larsen & Griffin, 1985).

TAS – Trait Anxiety Scale (Spielberger, 1983).

TASC-3 – Therapist Attitudes Scale – version 3 (Sandell et al., 2004).

TDA – Trait Descriptive Adjectives (Goldberg, 1992).

TFP - Transference Focused Psychotherapy (Clarkin, Yeomans & Kernberg, 2006).

VPPS - Vanderbitt Psychotherapy Process Scale (Suh, O'Malley, Strupp & Johnson, 1989).

WAI - Working Alliance Inventory (Horvath & Greenberg, 1986; 1989).

WAI-G - Working Alliance Inventory – Group form (Johnson, Penn, Bauer, Meyer & Evans, 2008).

WAI-S – Working Alliance Inventory – Short form (Busseri & Tyler, 2003).

WCCL – Ways of Coping Checklist (Vitaliiano, Russo, Carr, Maiuro & Becker, 1985).

YSQ - Young Schema Questionnaire (Young & Brown, 1994).

Chapter 1: Literature Review

1.1 Introduction

1.1.1 Therapeutic Alliance

Therapeutic alliance, otherwise known as therapeutic rapport or the therapeutic relationship, has been defined as the "collaborative, positive relationship between patient and therapist" (Price & Jones, 1998, pp.392).

There exists a strong argument that different therapies produce largely similar therapeutic results (Ahn & Wampold, 2001; Hubble, Duncan & Miller, 1999; Messer & Wampold, 2002; Wampold, 2001; Wampold & Imel, 2015). A common variable may, therefore, be responsible. Suggestions include outcome expectancy effects (Greenberg, Constantino & Bruce, 2006), the placebo effect (Rosenthal & Frank, 1956), therapist allegiance to the therapeutic model (Frank & Frank, 1991) and therapist personality or professional variables (Luborsky, McClellan, Diguer, Woody & Seligman, 1997).

The largest body of research suggests, however, that alliance may be the key pan-theoretical, explanatory element (Horvath & Luborsky, 1993). For example, a meta-analysis of the alliance-outcome relationship, which included a range of therapeutic orientations (psychodynamic, mixed and cognitive), showed a modest but consistent and statistically significant overall effect size of $r = 0.26$ (Horvath & Symonds, 1991). It was thought that this was a conservative estimate given the strict criteria and statistical methodologies that the research employed. Horvath (1994) went on to show that this estimate of effect size was in line with total patient gains across the various therapeutic orientations. It has therefore been argued that the therapeutic relationship is a key active component of a range of therapies (Henry, Strupp, Schacht & Gaston, 1994).

Wampold, Minami, Baskin and Tierney's (2002) "meta-(re)analysis" of the effect of cognitive therapy versus 'other therapies' for depression suggested "all bona fide psychological treatments for depression are equally efficacious" (pp. 159). In other words,

those psychological therapies which have been designed as a therapeutic treatment for depression are difficult to distinguish statistically in terms of efficiacy.

Where differences in outcome have been shown between the therapeutic types, this may be an artefact of technique impacting on alliance development and/or maintenance (Ackerman & Hilsenroth, 2003). For example, some studies have shown slightly better outcomes for cognitive or systemic therapies (over psychodynamic ones) but this may therefore be a result of a greater focus on techniques around collaboration rather than interpretation. This line of reasoning suggests it is just as important to include measures of alliance as it is to include measures of technique when investigating treatment outcome effects and mechanisms.

Alternatively, it may simply be possible that alliance is important because it "makes it possible for the patient to accept and follow treatment faithfully" (Bordin, 1980, pp.2).

There is a certain face validity to the notion that alliance forms a solid foundation for therapeutic work and therefore plays a causal role in promoting change. Another explanation of the well established correlation between alliance and outcome could be found in reverse causation, however. This is the suggestion that improved therapeutic outcome causes positive alliance ratings (Feeley, DeRubeis & Gelfand, 1999). Another conceptualisation of this idea is that a third variable, early therapeutic improvement, influences both later alliance and outcome scores (DeRubeis & Feeley, 1990). Any factor which could account for improvements in both alliance and outcome is a potential third variable (Crits-Christoph, Gibbons & Hearson, 2006). Interpersonal style (Kokotovic & Tracey, 1990; Satterfield & Lyddon, 1995) and expectancy (Gibbons et al., 2003) appear as a likely candidates within the literature.

Nevertheless, early studies which control for these potential third variables still find a relationship between alliance and outcome (Klein et al., 2003). Studies which measure alliance very early in treatment (before symptom change) also continue to find an alliance-

outcome relationship (Crits-Christoph, Gibbons, Hamiton, Ring-Kurtz & Gallop, 2011; Nordgren, Carlbring, Linna & Andersson, 2013). These factors support the traditional temporal relationship of alliance leading to outcome.

Several instruments have been developed to quantify alliance with the more recent based upon a transtheoretical definition of alliance such as that proposed by Bordin (1979) pertaining to agreement on goals and tasks in the context of the growth of bonds. These measures include the Working Alliance Inventory (WAI; Horvath & Greenberg, 1989) and California Psychotherapy Alliance Scales (CALPAS; Gaston, 1991).

Alliance is clearly an important construct and much research has been conducted to uncover those variables which might influence its quality.

1.1.2 Influencing Factors

There has been a long history of research into factors influencing alliance. A range of patient variables have shown association, including patient attachment style (Eames & Roth, 2000), symptom severity and interpersonal problems (Constantion, Arnow, Blasey & Agras, 2005), and attitudes such as defensiveness (Gaston, Marmar, Thompson & Gallagher, 1988). Horvath (1991) first systematised a range of these characteristics into three categories, as shown in Table 1, namely intrapersonal capacities or skills, intrapersonal dynamics, and diagnostic features.

Table 1.

Patient Characteristics Reported to Affect the Therapeutic Relationship

Intrapersonal capacities or skills	Intrapersonal dynamics	Diagnostic features
Quality of patients' social relationships (Moras & Strupp, 1982).	Patients' level of motivation (Marmar, Weiss & Gaston, 1989).	Severity of pre-therapy symptoms (Luborsky et al., 1983).
Strength of family relationships (Kokotovic & Tracey, 1990).	Quality of object relations (Piper, Azim, Joyce, McCallum, Nixon & Segal, 1991).	Prognostic indices (Klee, Abeles & Muller, 1990).
Indices of stressful life events (Luborsky, Crits-Christoph, Alexander, Margolis & Cohen, 1983).	Attitude (Kokotovic & Tracey, 1990).	
	Level of psychological mindedness (Ryan & Cicchetti, 1985).	

Table adapted from Horvath & Luborsky, 1993, pp. 567.

Concrete therapist variables including demographics such as age, gender, years of experience, competency (Bachelor, 1995), training level (Mallinckrodt & Nelson, 1991), expectancy effects (Al-Darmaki & Kivlinghan, 1993), and level of adherence to treatment guidelines (Ogrodniczuk & Piper, 1999) have also been thoroughly investigated and replicated. As has in-session therapist behaviours. For example, Najavits and Strupp (1994) reported a significant difference ($p = .01$) in therapist warmth/friendliness on the Vanderbilt Psychotherapy Process Scale (VPPS; Suh et al., 1989) between the groups with high and low patient-rated therapeutic alliance on the Luborsky Helping alliance scale (Luborsky, Crits-Christoph, Alexander, Margolis & Cohen, 1983). Similar findings were reported for therapists whose behaviour was rated as more respectful (Bachelor, 1995), collaborative (Luborsky et al., 1983) and flexible (Kivlighan et al., 1993).

Further, Price and Jones (1998) examined alliance using the CALPAS (Gaston, 1991) and in-session processes using the Psychotherapy Process Q-Sort (PQS; Jones,

1985) in session 5 and 14 for 30 therapist-patient dyads. The PQS endeavours to quantify in-session attitudes and behaviours of patients and therapists as well as the nature of their interactions (Jones, 1985). Price and Jones (1998) reported correlations between therapist-based processes, such as appearing to be supportive ($r = 0.22$, $p \leq .05$) and sensitive ($r = 0.21$, $p \leq .05$) and independent judges' ratings of the alliance. Correlations were also found for patient-based processes such as being introspective ($r = 0.36$, $p \leq .005$). The processes identified on the PQS may map to underlying behavioural motivators, such as values, but further research is required to examine the relationship between values and alliance directly.

Less tangible intrapersonal constructs, such as values and personality, continue to challenge researchers and are notable in their absence from the research literature despite the possibility that personality is associated with alliance (Blatt, Sanislow, Zuroff & Pilkonis, 1996). Thus, there remains reason to suspect that intrapersonal measures influence therapeutic alliance.

1.1.3 Personal Values

Values are relatively stable over time and allow the individual to judge things in their environment and mental world on a continuum of approval to disapproval (Kluckhohn, 1951). Early researchers therefore equated values with morals but, since the 1980s, these concepts have been distinguished (Grant, 1985).

Values are now seen as organising principles and the means with which degree of importance is placed on particular objects, behaviours and goals (Kluckhohn, 1951). They have been described as a type of high level motivational construct (Rohan, 2000).

The orthodox psychoanalytical view was that therapists should present as blank slates, however, there is now acceptance that, although it may not be their intention therapists cannot remain value free (Bergin, 1980; Kelly, 1990; Patterson, 2000; Weisskopf-Joelson, 1980). Norcross and Wogan (1987) surveyed 319 American

psychotherapists and found 89% believed the therapists' own values had a direct influence on therapy. Garfield and Bergin (1986) further suggested that personal values motivate each therapist's decisions pertaining to technique, therapeutic goals, and outcome assessment.

Rokeach (1973) created the first psychometric scale for psychology values defining a value as an "enduring belief that a specific mode of conduct or end-state of existence is personally or socially preferable" (pp.5). The scale avoided confounding items regarding interests, needs or behaviours which are only indicative of these underlying causal values. The resulting 36 items include a range of personal (e.g. wisdom), social (e.g. freedom), moral (e.g. honesty) and competency values (Kelly, 1990).

The prioritisation of these values and the degree of relative importance bestowed to each is unique to each therapist and patient. As the alliance forms, each therapeutic dyad is therefore also a unique mix of values and match or mismatch thereof.

Early research by Arizmendi and his colleagues started to consider the interaction between patient and therapist values (Arizmendi, Beutler, Shanfield & Crago, 1985). In a small study of 45 outpatients and 22 therapists, Arizmendi et al. (1985) assessed pre-treatment value similarity using Rokeach's Value Survey and compared this to outcomes such as symptom change. They reported that patients and therapist dyads with greater dissimilarity on the social ascendance and achievement value scores had better clinician reported outcomes. Conversely, patient and therapist dyads who had greater similarity in their rating of humanistic and philosophic concerns values showed better outcomes.

Patient and therapist values may also interact: For example, Herman (1997) found patients reported they were less engaged with and more negative about therapy, on the Session Evaluation Questionnaire (SEQ; Stiles, Gordon & Lani, 2002), if they reported dissimilarity on the Structural Profile Inventory (SPI; Landes, 1991) which quantifies areas of functioning such as behaviour, affect, cognition and biological factors.

Kelly and Strupp (1992) reported that patients' self-reported value assimilation on the Rokeach Value Survey (Rokeach, 1973) correlated with their therapists assessment of outcome using item 11 of the Post-Therapy Evaluation questionnaire (Strupp, Fox & Lessler, 1969) which pertains to symptom reduction; $r = 0.45$, $p < .001$. This was not the case for patient-reported outcomes or standardised outcome assessments that were completed by an independent clinician. For independent raters, "patient-therapist dyads whose values were moderately similar showed the most improvement, indicating that an intermediate range of value similarity may function as a predictor of positive outcome" (Kelly & Strupp, 1992, pp. 34).

None of these studies employed measures of alliance.

1.1.4 Values and Alliance

The association between alliance and values is not yet clear. Research has tended to utilise measures of intrapersonal behaviours (often externally rated) which are likely to be correlated with and motivated by underlying values, however, this assumption is not empirically stated.

For example, Ackerman and Hilsenroth (2003) conducted a comprehensive review of the literature published between 1988 and 2000. Their paper reviewed 25 studies and listed a range of therapist intrapersonal and behavioural attributes, including flexibility, honesty, respectfulness, trustworthiness, confidence, warmth, friendliness and appearing interested and open, which demonstrated a positive correlation with ratings of therapeutic alliance. The review covered a range of psychotherapeutic techniques and perspectives across 25 studies but did not review any studies which looked at a direct measure of pre-therapy values.

Horvath (1991) concluded that knowledge about therapist pre-treatment variables and their interaction with patient variables was a gap in the literature. Research into the

relationship between pre-treatment measures of values and later alliance was also missing (Horvath & Luborsky, 1993).

In 2001, Hersoug, Høglend, Monsen and Havik reported that "the relationship between therapist values and the development of working alliance in psychotherapy had not yet been studied" (Hersoug et al., 2001, pp.206). Thus, despite theoretical claims suggestive of the role of values in the development of alliance, empirical research on this topic seems mostly lacking.

1.1.5 Aim

The aim of the current literature review is to summarise the recent research investigating the personal values that affect therapeutic alliance. An understanding of these variables has the potential to be used to enhance the outcome of a broad range of therapies. The review further aims to highlight any gaps in current understanding which may warrant further research. To date, it is the author's understanding that no previous review has examined the relationship between therapeutic alliance and direct measures of therapist or patient values, and the last publication that indirectly reviewed this topic was published 13 years ago (Ackerman & Hilsenroth, 2003).

1.2 Method

1.2.1 Search Strategy

For the purpose of this paper, therapeutic alliance was defined in line with Bordin's (1979) transtheoretical definition to allow for the broadest definition of 'alliance'.

Three database searches were completed using PsycINFO (through EBSCO), MedLine (Ovid) and Web of Science to seek full text articles from English language academic journals. This included publications from between January 1990 and November 2015, to encompass the period from which therapists' personal values were no longer seen as undesirable and avoidable within the therapeutic environment (Kelly, 1990).

The first search term was “value* or attitude* or personality or character* or qualit* or trait*” but “not child*” and “not forensic”. The aim was to identify all papers that included any possible personal values and characteristics but to remove those papers which related to extraneous variables influencing therapeutic alliance. Child and forensic populations were considered as part of this latter group because of the lack of choice pertaining to engagement in therapy where parents, schools, courts, or prison programs may remove the element of free will.

The second search term was “program* or treatment or intervention or counsel*ing or psychotherap* or change” in order to increase the likelihood that the resulting papers were looking at psychological methods of producing change.

The third and final search term was “alliance or rapport or relationship” in order to capture all three ways of defining the therapeutic relationship.

These three search terms were combined with “and” and resulted in 258 PsycINFO, 143 MedLine and 301 Web of Science papers which were conducted within a psychological setting and potentially considered alliance and values.

Figure 1 outlines the process of reviewing these titles and abstracts in order to remove those where it was immediately apparent that a child, forensic or non-psychological setting had been used, where there was no analysis of therapeutic alliance, any book chapters and the duplicates between the databases.

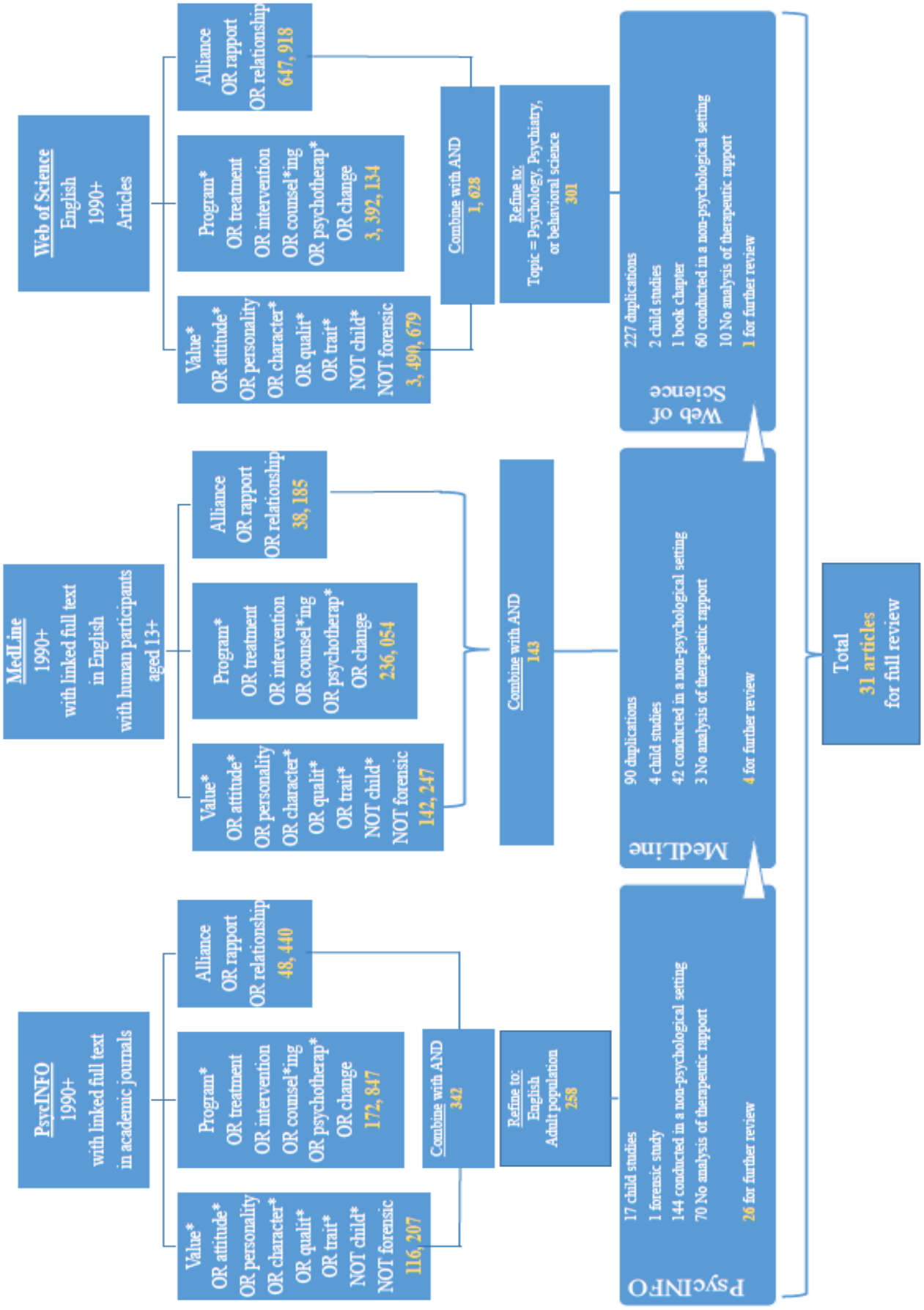


Figure 1: A flowchart of the initial database search results for the literature review.

1.2.2 Inclusion and Exclusion Criteria

The inclusion criteria for the current paper only allowed for studies that measured therapist and/or patient attributes and therapeutic alliance in the context of outcome research. It therefore did not include studies that looked at the relationship between alliance and outcome without a more detailed analysis of the alliance variable. Inclusion criteria also included publication in a peer reviewed journal.

Articles were excluded if they were in any language other than English or had been duplicated in one of the previous database searches.

This method resulted in 31 papers and a further paper was added from the authors' prior knowledge of the area, leaving 32 papers to review in full. Figure 2 outlines further exclusions.

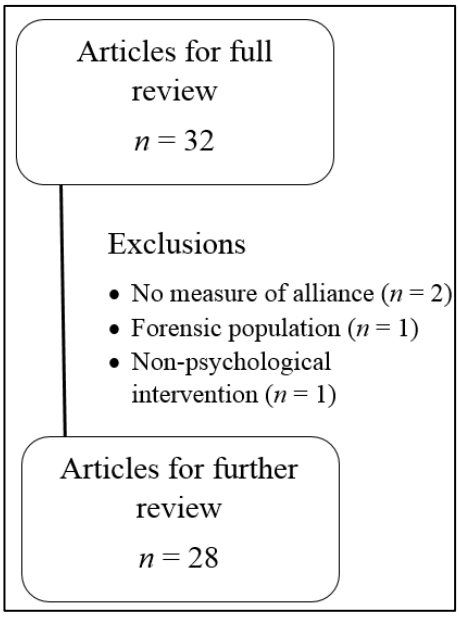


Figure 2: A flow chart of initial decisions pertaining to the literature review.

By including "or personality" in the original search terms the database included studies pertaining to personality disorder diagnoses but not about the personality, characteristic or values of a person. For this reason a number of papers were excluded on

the grounds of not including a measure of personality. The resulting set of 28 papers were all within the target population and contained a measure of alliance therefore the final stage was to screen for values. The initial definition of values stated that this variable had to have been conducted using a direct and non-diagnostic measure with either the patient or therapist or both but that it could not be inferred from related personality or behavioural variables. This screening reduced the dataset to $n = 1$ paper. The reference lists of all 28 papers were screened for further papers pertaining to values but this did not add to the findings.

The criteria were therefore relaxed in order to include any paper that had a measure of intrapersonal dynamics (Horvath, 1991) within a hypothesis or analysis with a measure of alliance. Intrapersonal dynamics were defined as any personality construct. Personality constructs included but were not limited to values, personality measures, interpersonal functioning or style etc. Papers were screened out if the therapist or patient variables only included:

- Demographic details like age or gender
- Diagnostic tools
- Professional details of the therapist like years of experience or therapeutic orientation
- Cognitive assessments like memory functioning

Figure 3 shows the final exclusions and the resulting 15 studies that were included in the literature review. A final two papers (Coleman, 2006a; 2006b) were added following emailing researchers in the field.

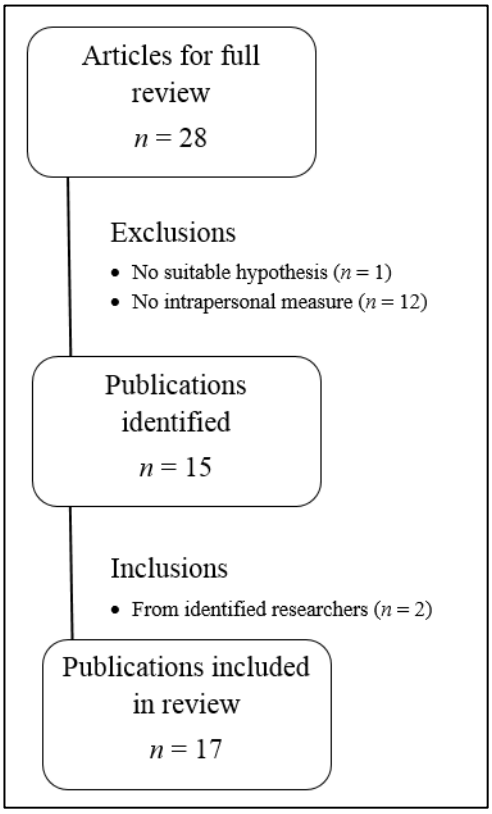


Figure 3: A flow chart of decisions pertaining to the intrapersonal variable resulting in the articles reviewed in full.

1.3 Data Synthesis and Extraction

1.3.1 Design

Whilst the criteria allowed for both qualitative and quantitative papers to be included, the results consisted of just quantitative methods. These 17 articles all contained measures of alliance, within an adult population who were able to consent to the therapeutic process, and involved some type of psychological intervention. The second variable, personality constructs, was found to divide into four categories; values (n = 1), interpersonal style (n = 12) personality organisation (n = 6), and quality of object relations (n = 4). A number of studies contained variables across more than one of these categories.

Of the 17 papers, two were controlled trials, five were randomised controlled trials (RCTs), nine were naturalistic and one was a cross-sectional design.

1.3.2 Study Characteristics

Table 2 outlines the characteristics of the studies included in this literature review. The number of therapists within each study ranged from 7 to 70 whilst there were between 23 and 333 patients per study. The mean age of patients ranged from 28.2 to 42.1 years. The diagnoses identified within the papers were schizophrenia/schizoaffective (*n* = 2), Borderline Personality Disorder (BPD; *n* = 1), affective disorder (*n* = 1), and "varied" in the a further 12. Chapman et al. (2009) did not report on patient psychopathology.

The interventions employed were described as psychodynamic by eight papers and cognitive behavioural in one. A further four papers compared therapy types and four did not report the therapeutic orientation. The therapies were conducted by a range of qualified professionals including psychiatrists, clinical psychologists, social workers and nurses, however, five studies employed trainee therapists.

Further, there were large differences in the way in which alliance was measured with different tools, timepoints and raters between the studies.

Table 2.

The Core Characteristics and Findings of the Seventeen Studies Included in the Literature Review

Study	Design	*N* patients	Patient details	*N* therapists	Therapeutic orientation	Patient measures	Therapist measures
Chapman, Talbot, Tatman and Britton (2009)	Cross sectional	62	63% female. Mean age of 28.4 years (range 18-51, *SD* = 8.3). Diagnosis not reported. In the USA.	33 psychotherapy trainee counsellors.	Therapeutic orientation not reported.	WAI-S.	NEO-FFI. WAI-S.
Coleman (2006a)	Naturalistic	103	74% female. Mean age 38.7 years (*SD* = 11.2). Varied diagnoses. In the USA.	31 with 16% at doctoral level and the rest with a masters in psychology or psychiatric nursing.	Orientation not reported. Mean duration of 25.6 months.	GAF. BSI. SCL-90. SWLS. WAI-S. TDA.	None.
Coleman (2006b)	Naturalistic	39	72% female. Mean age 39.2 years (*SD* = 13.5). Varied diagnoses. In the USA.	15.	Not reported.	GAF. BSI. SCL-90. SWLS. WAI-S. TDA.	TDA.

Study	Design	*N* patients	Patient details	*N* therapists	Therapeutic orientation	Patient measures	Therapist measures
Couture et al. (2006)	RCT	30	43% female. Mean age of 40.9 years (*SD* = 11.74). Diagnosed with schizophrenia. In the USA.	Not reported	20 sessions of cognitive behavioural or psychoeducational intervention.	PANSS. SFS. WAI-S.	WAI-S.
Heinonen et al. (2014)	RCT	333	75% female. Mean age of 32.1 years (*SD* = 6.8). Diagnosed with depressive and/or anxiety disorders. In Finland.	70	Four therapeutic groups: Short-term solution focused (*N* = 93), short term psychodynamic (*N* = 98), long term psychodynamic (*N* = 102) and long term psychoanalysis (*N* = 40) therapies.	WAI-S.	DPCCQ. WAI-S.
Hersoug, Høglend, Monsen and Havik (2001)	Naturalistic	270	67% female. Mean age 33.7 years (*SD* = 8.84) Varied diagnoses. In Norway.	59	Long-term psychodynamic psychotherapy (up to 120 sessions).	SCL-90-R. IIP. SASB. PBI. RVS Target Complaint. DSM-IV SCID I & II. GAS. WAI-S.	IIP. SASB. PBI. RVS. DPCCQ. WAI-S.

Study	Design	*N* patients	Patient details	*N* therapists	Therapeutic orientation	Patient measures	Therapist measures
Hersoug, Monsen, Havik and Høglend (2002a)	Naturalistic	270	67% female. Mean age of 33.7 years (*SD* = 8.84). Varied diagnoses. In Norway.	39 clinical psychologists, 13 psychiatrists, 4 social workers, 3 nurses (total = 59).	Long-term psychodynamic psychotherapy.	SCL-90-R. GAS. SCID-II. PFS. IIP. QOSR. PBI. SASB. WAI-S.	WAI-S.
Hersoug, Sexton and Høglend (2002b)	Naturalistic	43 but 39 analysed	86% female. Mean age 35.7 years (*SD* = 8.3). Varied diagnoses In Norway.	6 psychiatrists, 1 clinical psychologist.	Brief dynamic psychotherapy (<40 sessions).	SCL-90-R. IIP. WCCL. DSQ. SCID-I. SCID-II. DMRS. GAS. GSI. WAI-S.	None.

Study	Design	*N* patients	Patient details	*N* therapists	Therapeutic orientation	Patient measures	Therapist measures
Hersoug, Høglend, Havik, von der Lippe and Monsen (2009a)	Naturalistic	201	73% female. Mean age of 35.9 years (range 18-62, *SD* = 9.63). Varied diagnoses. In Norway.	61	Long-term psychodynamic psychotherapy (Mean amount of sessions 60.7, *SD* = 51.1, range 20-340).	SCL-90-R. IIP. PBI. SCID I. SCID-II. GAS. PFS. WAI-S.	WAI-S.
Hersoug, Høglend, Havik, von der Lippe and Monsen (2009b)	Naturalistic	201	73% female. Mean age of 35.9 years (range 18-62, *SD* = 9.63). Varied diagnoses. In Norway.	61	Long-term psychodynamic psychotherapy (Mean amount of sessions 60.7, *SD* = 51.1, range 20-340).	SCL-90-R. IIP. PBI. SCID I. SCID-II. GAS. PFS. WAI-S.	DPCCQ. IIP. PBI. WAI-S.
Hersoug, Høglend, Gabbard and Lorentzen (2013)	RCT	100	56% female. Mean age of 36.9 years (range 21-57, *SD* = 9.3). Varied diagnoses. 100% Caucasian. In Norway.	6 psychiatrists, 1 clinical psychologist	Weekly manualised psychodynamic therapy for 1 year. *N* = 52 with use of transference interpretation and *N* = 48 (the Compassion Group) without transference interpretations	QOR rated by 3 clinicians. Two likerts: Global expectancy. Target expectancy. WAI-S. PFS. IIP. SCID-II.	None.

Study	Design	*N* patients	Patient details	*N* therapists	Therapeutic orientation	Patient measures	Therapist measures
Piper et al. (1991)	Controlled trial	64	62% female. Mean age of 32 years (range 21-53, *SD* = 8). Varied diagnoses. In Canada.	3 psychiatrists, 1 psychologist, 4 social workers (total = 8).	20 weekly sessions of dynamically oriented therapy following a technical manual.	QOR via unstructured interview. Idiosyncratic alliance scale. IDS. RSE. BDI. IBS. TAS. GSI. SAS.	Idiosyncratic alliance scale.
Piper, Ogrodniczuk and Joyce (2004)	Controlled trial	144	61% female. Mean age of 34.3 years (range 18-62, *SD* = 9.6). Varied diagnoses. 94% white. In Canada	3 psychologists, 2 social workers, 2 occupational therapists, 1 psychiatrist (total = 8).	Short-term, individual Supportive Therapy or Interpretive Therapy.	QOR assessed interview. Idiosyncratic alliance scale. IIP. SAS. BDI. TAS. GSI. SCL-90-R. RSE. DSQ. Mini-SCID.	Idiosyncratic alliance scale.

Study	Design	*N* patients	Patient details	*N* therapists	Therapeutic orientation	Patient measures	Therapist measures
Romeo, Meyer, Johnson and Penn (2014)	RCT	65	49% female. Mean age of 42.1 years (*SD* = 12). Diagnosed with schizophrenia (49%) or schizo-affective disorder. In the USA.	10	Group therapy, supportive therapy or CBT for treatment resistant auditory hallucinations.	WAI-G. PANSS. BCIS. PTSC. SFS.	VPPS. BCIS.
Sanders, Hilsenroth and Fowler (2014)	Naturalistic	69	73% female. Mean age of 28.2 years (*SD* = 9.9). Varied diagnoses. In the USA.	26	Advanced doctoral students using psychodynamic psychotherapies.	RIT. MOA. CASF-P.	CPPS.
Spinhoven, Giesen-Bloo, van Dyck, Kooiman and Arntz (2007)	RCT	78	92% female. Mean age of SFT group was 31.7 (SD = 8.9) and TFP was 29.4 (SD = 6.5) years. Main diagnosis of BPD. In the Netherlands.	30	Majority of therapists were at masters level in training. Three years of biweekly SFT (*N* = 44) or TFP (*N* = 34).	BPDSI-IV. YSQ. IPO. WAI-S.	YSQ. IPO. WAI-S. DDPRQ.

Study	Design	*N* patients	Patient details	*N* therapists	Therapeutic orientation	Patient measures	Therapist measures
Zimmerman and Bambling (2012)	Naturalistic	23	74% female. Mean age of 35 years (range 19-43, *SD* 8.86). Varied diagnoses. In Australia.	10	First year clinical interns with a range of approaches.	OQ-45. WAI-S.	TASC-3. NEO-FFI. COSE. AAS.

Notes: AAS = Adult Attachment Scale. BCIS = Beck Cognitive Insight Scale. BDI = Beck Depression Inventory. BPD = Borderline Personality Disorder. BPDSI-IV = Borderline Personality Disorder Severity Index. BSI = Brief Symptom Inventory. CASF-P = Combined Alliance Short Form – Patient Version. COSE = Counselling Self-Estimate Inventory. CPPS = Comparative Psychotherapy Process Scale. DDPRQ = Difficult Doctor-Patient Relationship Questionnaire. DMRS = Defense Mechanism Ratings Scale. DPCCQ = Development of Psychotherapists Common core Questionnaire. DSM – Diagnostic and Statistical Manual. DSQ = Defensive Style Questionnaire. GAF = Global Assessment of Functioning. GAS = Global Assessment Scale. GSI = Global Severity Index. IBS = Interpersonal Behavior Scale. IDS = Interpersonal Dependency Scale. IIP = Inventory of Interpersonal Problems. IPO = Inventory of Personality Organisation. Mini-SCID = Mini Structured Clinical Interview for the DSM-III-R. MOA = Mutuality of Autonomy Scale. NEO-FFI = Neo Five Factor Inventory. NMSPOP = Norwegian Multisite Study of Process and Outcome in Psychotherapy. OA-45 = Outcome Questionnaire. PANSS = The Positive and Negative Syndrome Scale. PBI = Parental Bonding Instrument. PFS = Psychodynamic Functioning Scale. PTSC = Psychological Treatment Compliance Subscale. QOSR = Quantity and Quality of Social Relations. QOR = Quality of Object Relations. RIT = Rorschach Inkblot Test. RSE = Rosenberg Self-Esteem Scale. RVS = Rokeach Value Survey. SAS = Social Adjustment Scale. SASB = Structural Analysis of Social Behavior. SCID-I = Structured Clinical Interview for DSM Disorders of Axis I. SCID-II = Structured Clinical Interview for DSM Disorders of Axis II. SCL-90 = Symptom Checklist 90. SCL-90-R = Symptom Checklist 90 Revised. SFS = Social Functioning Scale. SFT = Solution Focused Therapy. TAS = Trait Anxiety Scale. TASC-3 = Therapists Attitudes Scale – version 3. TDA = Trait Descriptive Adjectives. TRP = Transference Focused Psychotherapy. VPPS = Vanderbitt Psychotherapy Process Scale. WAI = Working Alliance Inventory. WAI-F = Working Alliance Inventory – Group form. WAI-S = Working Alliance Inventory – Short form. WCCL = Ways of Coping Checklist. YSQ = Young Schema Questionnaire.

1.3.3 Measures

1.3.3.1 Alliance. Alliance was measured in a range of difference ways with some studies using multiple methodologies (see Table 3). Even within a group utilising the same measure there was disparity regarding the timepoint at which the data was collected and one study did not report this detail (Coleman, 2006a). Alliance was measured using one of the Working Alliance Inventory scales (WAI; Horvath & Greenberg, 1986; 1989) in 13 of the 17 studies. The original WAI is a 36-item self-report measure designed to capture the three dimensions of Bordin's (1980) alliance description. There are 12 items for each of the dimensions: bonds, goals and tasks. Patients and/or therapists are asked to rate each item on a 7-point likert scale where 1 is never and 7 is always. Fourteen of the items are reverse coded. Mean scores are produced for the bond, goals and tasks subscales as well as for global alliance. A higher score indicates stronger working alliance. There are therapist (WAI-T) and patient (WAI-P) versions which can be employed individually or simultaneously.

The three subscale dimensions share considerable overlap or covariance but this is not unexpected from Bordin's (1980) theoretical perspective. The overall alliance score has good reliability with Cronbach's alpha ratings reported at 0.93 for the patient version and 0.87 for therapists (Horvath & Greenberg, 1989).

Three studies used the full patient- and therapist- rated versions. Heinonen et al. (2014) used the Finnish version, Spinhoven et al. (2007) employed Dutch and Couture et al. (2006) used the original English version.

The full form WAI scales are generally considered valid measures of alliance given the strong theoretical base and the strong associations with other alliance inventories (Campbell & Fiske, 1959).

The WAI scales are the most widely used alliance scales internationally and have been shown to have adequate reliability and validity in a range of settings and with varied

diagnoses (Tichenor & Hill, 1989). The short form WAI was constructed by combining the four items with the highest loading for each of the three dimensions to create a 12-item scale and a global alliance score from 12 (low) to 84 (high) (Busser & Tyler, 2003). The six Hersoug papers employed a Norwegian version of the short form patient and therapist WAI (Hersoug et al., 2001; 2002a; 2002b; 2009a; 2009b; 2013) but two of these papers only collated patient responses. Chapman et al. (2009), Zimmerman and Bambling (2012) and Coleman (2006a; 2006b) used the English version. Zimmerman and Bambling (2012) and Coleman (2006a; 2006b) only asked patients, not therapists, to complete it.

All of the papers which employed a form of WAI only analysed the global alliance score, i.e. no subscales were used in statistical analyses.

One further paper (Romeo et al., 2014) employed the group version of the WAI and collated patient ratings only. The WAI-G (Johnson et al., 2008) uses the full 36-item WAI with modifications to allow the patient to rate group alliance rather than alliance to the therapist. The reliability was reported with a Cronbach's alpha of 0.92 for the global score.

Alongside the WAI, one paper (Spinhoven et al., 2007) also used the Difficult Doctor-Patient Relationship Questionnaire (DDPRQ; Hahn et al., 1994). This self-report measure was completed by therapists and is reported to quantify how difficult therapists find each patient relationship. Ten likert scales are rated from 1 (not at all) to 6 (a great deal) and the resulting scores quantify the level of therapist frustration. The internal consistency in Spinhoven et al. (2007) was reportedly 0.79.

Another paper (Sanders et al., 2014) used the patient form of the Combined Alliance Short Form Questionnaire (CASF-P; Hatcher & Barends, 1996). This measure consists of 20 self-report 7-point likert scales. Higher scores indicate stronger alliance ratings. It was produced through a factor analysis of the California Psychotherapy Alliance Scales (CALPAS; Gaston & Marmar, 1994), the WAI (Horvath & Greenberg, 1989) and the Helping Alliance Questionnaire (Alexander & Luborsky, 1986). It produces a total alliance

score and four subscales; confident collaboration, goals and tasks, bond, and idealised therapist. Sanders et al. (2014) reported that the coefficient alphas for the subscales ranged from 0.84 to 0.93 but did not report the reliability found in their own data.

Finally, two papers employed idiosyncratic measures of alliance (Piper et al, 1991; 2014). In both papers, therapeutic alliance was defined as "the working alliance between the patient and therapist" (Piper et al., 2014, pp. 350). The patients and therapist were separately asked to rate the alliance after every session using six likert scales rated from 1 (very little) to 7 (very much). Items intended to capture data on "whether the patient had talked about private material, felt understood by the therapist, understood and worked with what the therapist had said, felt that the session enhanced understanding, whether the therapist was helpful, and whether the patient and therapist worked well together" (Piper et al., 2014, pp. 350).

The 1991 paper employed principle component analysis to produce a single patient-rated alliance score. However, in this case two factors were found for the therapist ratings which were reported to relate to immediate and reflective components of alliance. Reliability scores were not reported. In the 2014 paper, the scores were combined to produce both total patient- and therapist- rated alliance scores. The patient-rated scale had a reported Cronbach's alpha of 0.97 whilst the therapist-rated scale was 0.96. There was a small but significant positive correlation between the two alliance ratings which indicated some degree of agreement between the therapists and patients regarding the strength of the alliance; $r(69) = 0.36$, $p = .002$.

There was wide variation in the timepoints at which alliance was rated but many saw the third session as a valid point to start rating alliance and most used multiple timepoints.

Seven studies used patient-rated alliance only but none used therapist-ratings only and ten employed both.

Table 3.

The Ways in which Therapeutic Alliance was Measured within the Literature Review Studies

Alliance Measure	Type of measure	Reliability	Rater	Study	When
Working Alliance Inventory (WAI)	Full form of the WAI self-report questionnaire with 36 likert scales.	Good-excellent reliability for the overall alliance rating with a reported Cronbach's alpha of 0.93 for patients and 0.87 for therapists (Horvath & Greenberg, 1989).	Patient and therapist.	Couture et al. (2006).	Week 5.
				Heinonen et al. (2014).	Weeks 3 and month 7.
				Spinhoven et al. (2007).	Months 3, 15 and 33.
Working Alliance Inventory – short form (WAI-S)	Short form of the WAI self-report questionnaire with 12 likert scales.	Has shown similar reliability and validity to the full form WAI (Tracey & Kokotovic, 1989).	Patient and therapist.	Chapman et al. (2009).	Between weeks 3-7.
				Hersoug et al. (2001).	Weeks 3 and 12.
				Hersoug et al. (2002a).	Weeks 3 and 12.
				Hersoug et al. (2009a).	Sessions 3, 12, 20, 40, 60, 80, 100 and 120.
				Hersoug et al. (2009b).	Weeks 20, 60 and 120.

Alliance Measure	Type of measure	Reliability	Rater	Study	When
			Patient only.	Coleman (2006a).	Not reported.
				Coleman (2006b).	Not reported.
				Hersoug et al. (2002b).	Weeks 3, 12, 20 and 40.
				Hersoug et al. (2013).	Week 7.
				Zimmerman and Bambling (2012).	After every session.
Working Alliance Inventory – group form (WAI-G).	Group form of the full WAI.	Romeo et al. (2014) reported a Cronbach's alpha of 0.92 for the global score.	Patient only.	Romeo et al. (2014).	Between week 5-6.
Difficult Doctor-Patient Relationship Questionnaire (DDPRQ; Hahn, Thompson, Stern, Budner & Wills, 1990).	Therapist-rated scale with 10 likert to be rated from 1 to 6.	Spinhoven et al. (2007) reported the internal consistency to have an alpha of 0.79.	Therapist only.	Spinhoven et al. (2007).	Months 3, 15 and 33.

Alliance Measure	Type of measure	Reliability	Rater	Study	When
Combined Alliance Short Form - Patient version (CASF-P; Hatcher & Barends, 1996).	Scale consists of 20 likerts to be rated from 1 to 7 to produce 4 subscales.	Sanders et al. (2014) reported coefficient alphas for the subscales of 0.84-0.93.	Patient only.	Sanders et al. (2014).	Between weeks 3-9.
Idiosyncratic measures.	Created an idiosyncratic set of six likert scales which were completed at every session so that scores could then be aggregated across sessions.	Piper et al. (2014) reported the Cronbach's alpha was 0.97 for patient ratings and 0.96 for therapists.	Patient and therapist	Piper et al. (1991).	After every session, averaged.
				Piper et al. (2004).	After every session.

1.3.3.2 Personality Constructs. Table 4 outlines the way in which the studies measured personality constructs and shows that some studies considered more than one facet of personality. A number of the papers used measures which were more than 20 years old. The variety of personality constructs employed and the range of measures used within each makes it challenging to compare them directly, however, for the purpose of this literature review, the different aspects of personality will be considered individually.

Table 4.

The Ways in which Personality Constructs were Measured

Personality Construct	Measure	Studies used	Description	Reliability
Values	Rokeach Value Survey (RVS; Rokeach, 1973).	Hersoug et al. (2001).	Participants rank two sets of 18 values in order "of importance to YOU, as guiding principles in YOUR life" (Rokeach, 1973, p. 27). The data are then summarised to produce 18 scores on instrumental values, such as obedience, honesty, and politeness, and terminal values such as national security, friendship and self-respect.	Like Rokeach (1973), Hersoug et al. (2001) did not report reliability scores for their RVS data.
Interpersonal style	Vanderbilt Psychotherapy Process Scale (VPPS; O'Malley, Suh & Strupp, 1983).	Romeo et al. (2014).	Researchers rated the 44 VPPS items regarding therapist characteristics on a 5-point likert. These produce three subscales; therapist warmth and friendliness, negative therapist attitude (regarding intimidation and threatening attitudes) and therapist exploration (regarding attempts to explore underlying reasons for emotions and actions).	Romeo et al. (2014) reported the inter-rater reliability was 0.92 and all the subscales had a Cronbach's alpha of 0.81 or higher.
	Inventory of Interpersonal Problems (IPP; Alden et al., 1990).	Hersoug et al. (2001; 2002a; 2002b; 2009a; 2009b; 2013).	The IIP is a 64-item questionnaire generated from the original 127-item IIP and is sometimes known as the IIP-C. Participants rate 39 times beginning "it's hard for me to _" and 25 items about things they do too much. Each is rated on a 5-point likert from 0 (not at all) to 4 (extremely). Results are described around two overarching personality continuums; dominant/submissive and cold/overly nurturing. The subscales are averaged and summed to produce four scores labelled IIP cold/detached, IIP dominant, IIP exploitable, IIP avoidant.	Hersoug et al. (2013) reported a Cronbach's alpha of 0.85 at pre-treatment but Hersoug et al. (2001; 2002a; 2002b; 2009a; 2009b) did not report reliability scores.

Personality Construct	Measure	Studies used	Description	Reliability
	Social Functioning Scale (SFS; Birchwood et al., 1990).	Couture et al. (2006). Romeo et al. (2014).	The SFS is a 74-item measure of social and occupational functioning often used with patients with schizophrenia. It consists of likert and frequency scales which generate a total score. This can be used as an index of social functioning with higher scores relating to better functioning.	Both studies used the total score only. Although Couture et al. (2006) did not report on reliability, Romeo et al. (2014) reported a Cronbach's alpha of 0.65.
	Psychodynamic Functioning Scale (PFS; Høglend et al., 2000).	Hersoug et al. (2009a; 2013).	The PFS generates six subscales which range from 1-100 and each contain 10 descriptive levels to be rated for the last three months. The scales include quality of family relationships, quality of friendships, quality of romantic or sexual relationships, tolerance for affects, insight, and problem-solving capacity which are rated by the clinician. This produces an overall score which can be classified as non-clinical (above 70), less severe (60-70) or severe, long lasting problems (<60). This was used in the Hersoug et al. (2013) study whilst Hersoug et al. (2009a) combined the family/friendships and romantic/sexual subscales to produce a score called PFS Interpersonal Functioning.	Inter-rated reliability yielded interclass coefficients of 0.71-0.79 (good-excellent) for the PFS subscales in Hersoug et al. (2009a) and total scores had an interclass coefficient of 0.91 in Hersoug et al. (2013). The PFS Interpersonal Functioning score within Hersoug et al. (2009a) had an inter-rater reliability coefficient of 0.68.
	Recent interpersonal functioning.	Piper et al. (1991).	Piper et al. (1991) combined eight measures of interpersonal functioning; the emotional reliance subscale from the Interpersonal Dependency Scale (Hirschfeld et al., 1977), "the present level of functioning subscale, and the six subscales of the Social adjustment Scale: work, social, family of origin, sexual, partner, and parental" (pp.435).	Reliability for this unique combination of scales was not reported.

Personality Construct	Measure	Studies used	Description	Reliability
Personality organisation	Trait Descriptive Adjectives (TDA; Goldberg, 1992).	Coleman (2006a; 2006b)	The TDA is a self-report measure of personality which produces scores on the Big Five personality factors; agreeableness, conscientiousness, neuroticism, extraversion and openness.	Goldberg (1992) reported internal reliability coefficients of 0.84-0.90. Coleman (2006a; 2006b) used a reduced number of items and reported coefficients of 0.69-0.82.
	Neo Five Factor Inventory (NEO-FFI; Costa & McCrae, 1992).	Chapman et al. (2009). Zimmerman and Bambling (2012).	The NEO-FFI is a shortened version of the original personality inventory and contains 60 likert scales to be rated from 0 (strongly disagree) to 4 (strongly agree). It yields personality profile scores for five subscales each made up from 12 answers; agreeableness, conscientiousness, neuroticism, extraversion and openness.	The original NEO-FFI manual reports high internal consistency in all subscales (>0.85) and good subscale test-retest reliability (0.66-0.92) (Costa & McCrae, 1992). Further research has also reported strong validity and reliability (Caruso, 2000). Chapman et al. (2009) reported Cronbach's alpha scores for internal consistency for the subscales at 0.75 for neuroticism and conscientiousness, 0.76 for openness, and 0.79 for extraversion and agreeableness. Zimmerman and Bambling (1012) did not report there analyses of the NEO-FFI data.

Personality Construct	Measure	Studies used	Description	Reliability
	Development of Psychotherapists Common Core Questionnaire (DPCCQ; Orlinsky et al., 1999).	Heinonen et al. (2014). Hersoug et al. (2009b).	The DPCCQ consists of 392 self-report likert scales rating professional and personal characteristics of therapists (Orlinsky & Rønnestad, 2005). Orlinsky and Rønnestad (2005) used factor analysis to construct a number of scales from these scores including personality identity which is made up of scores for geniality, warmth, openness, optimism, forcefulness, intensity, task orientation, assertiveness, reclusiveness, aloofness, scepticism, privateness, and subtleness.	Neither paper published reliability scores for the DPCCQ scales, however, Heinonen et al. (2014) reported their sample showed similar scores to the original paper (Orlinsky & Rønnestad, 2005, who reported acceptable-good internal reliability scores produced on the DPCCQ: 0.59-0.81).
	Inventory of Personality Organisation (IPO; Kernberg & Clarkin, 1995).	Spinhoven et al. (2007).	The IPO is a 90-item questionnaire consisting of 5-point likert scales from 1 (never true) to 5 (always true). These items are summed to produce three clinical and two interpersonal relations subscores. The three clinical subscales relate to the central dimension of Kernberg's personality organisation model; Reality testing, identity diffusion, and primitive psychological defences. All five scales can be summed to also indicate pathological personality characteristics with a higher score indicating higher impairment.	Lenzemweger, Clarkin, Kernberg and Foelsch (2001) reported that the clinical personality organisation scales had "adequate internal consistency and good test-retest reliability" (pp. 577) whilst Spinhoven et al. (2007) reported internal consistencies ranged from 0.72-0.88 for therapists and 0.76-0.93 for patients.

Personality Construct	Measure	Studies used	Description	Reliability
Quality of Object Relations	Mutuality of Autonomy Scale (MOA; Urist, 1977).	Saunders et al. (2014).	The MOA is associated with the Rorschach Inkblot Test and is designed to capture the range of relationships from a capacity for mutuality and respect of autonomy (scored at 1-2) through to increasingly malevolent relationships without boundaries (scored at 5-7). Raters score inkblot responses on 7-point likert scales if they pertain to a relationship including those with inanimate objects. Saunders et al. (2014) used the summary scores MOA mean regarding a prototypical representation, MOA low for adaptive representation, and MOA high for a pathological representation.	Bombel, Mihura and Meyer (2009) reported good reliability and clinical validity of the MOA and Monroe, Diener, Foweler, Sexton and Hilsenroth (2013) supported the tool as a valid measure of the quality of object relations. Saunders et al. (2014) reported intraclass correlation coefficients of 0.97 for MOA mean, 0.89 for MOA low, and 0.93 for MOA high, which are all within the excellent range.
	Quality of Object Relations Scale (QOR; Azim et al., 1991).	Hersoug et al. (2013).	The QOR scale is a clinician-rated measure of patients' lifelong tendency to establish certain patterns of relationships with others. It consists of three 8-point scales pertaining to whether the patient has at least one of the following; a stable and mutual interpersonal relationship, history of an adult sexual relationships, and history of non-sexual adult relationships. Scores are then classified on a continuum from mature to primitive.	Hersoug et al. (2013) reported that QOR was rated by a minimum of three clinicians pre-treatment, the intraclass correlation of which was 0.84.

Personality Construct	Measure	Studies used	Description	Reliability
	QOR interviews	Piper et al. (1991; 2004).	Piper et al. (1991) conducted a two-hour unstructured interview whilst Piper et al. (2004) assessed quality of object relations via a one hour semi-structured interview. Both included an examination of recent and past relationships as well as the immediate relationship with the interviewer. Each allocated up to 100 points to the five possible levels: mature, triangular, controlling, searching, and primitive. The overall QOR score was made by entering these scores into an equation which results in a total score from 1 to 9.	Piper et al (1991) found a 'fair' intraclass coefficient of 0.5 by using a second rater on a proportion of the data (50/64). Piper et al. (2004) reported a better intraclass correlation coefficient of 0.68.

1.4 Results

The literature review results are organised according to the different categories of personality constructs reported in Table 4 .

1.4.1 Values

The original aim of the current literature review was to summarise the recent research investigating the hypothesised relationship between personal values and alliance directly, i.e. through pre-therapy self-reported measures of values rather than by correlated in-session behavioural measures. Despite exhaustive searches only one study fulfilled this criterion (Hersoug et al., 2001).

Hersoug et al. (2001) utilised the Rokeach Value Survey (Rokeach, 1973) but did not report a reliability analysis of these data. This large, naturalistic study collated data regarding patient (N = 270) and therapist (N = 59) values as part of a study aimed at exploring the therapist professional and personal characteristics that predicted alliance. This included an analysis of patient-therapist similarity coefficients using intraclass correlations on the parallel data for the items on the RVS. As patient and therapist value similarity increased, so too did patient-rated alliance. While there was no significant relationship for earlier alliance (session 3), they reported a significant correlation between value similarity and patient-rated alliance later in therapy (session 12); $r = 0.18$, $p < 0.05$. They did not replicate this finding with therapist-rated alliance, however, at either timepoint. The authors interpreted this finding as the patients having perceived cues regarding therapist values and found that similarity increased feelings of positivity towards the therapist. They questioned whether there may be an optimum match but cautioned that much further work was required.

Hersoug et al. (2001) listed the average value ranks provided by therapists and patients. When the current author compared these, it appeared they were all but identical

with the exception of the value ‘inner harmony’. It may be possible, therefore, that patients who ranked this value as more important (or conversely, those therapists that rated inner harmony as less important) had a profile more similar to their therapy partner. In this case, level of inner harmony could explain most of the variance rather than value similarity per se. Further analyses of these data and replication research are required.

1.4.2 Interpersonal Style

Nine papers included at least one measure of interpersonal style and three papers used two different measures. The measures employed were the Vanderbilt Psychotherapy Process Scale (VPPS; O’Malley et al., 1983; *n* = 1), the Inventory of Interpersonal Problems (IIP; Alden et al., 1990; *n* = 6), the Social Functioning Scale (SFS; Birchwood et al., 1990; *n* = 2) , the Psychodynamic Functioning Scale (PFS; Høglend et al., 2000; *n* = 2) and an idiosyncratic measure of recent interpersonal functioning.

1.4.2.1 Vanderbilt Psychotherapy Process Scale (VPPS; O’Malley et al., 1983).

Romeo et al., (2014) looked at the relationship between the three VPPS subscales (therapist warmth/friendliness, therapist negative attitude and therapist exploration) and patient-rated alliance (using the WAI-G), and found a significant association between the first two subscales and patient-rated alliance at week six. As therapist warmth increased so did patient-rated alliance (p = .06) but as negative attitude increased, the alliance rating decreased (p = .053). This finding should be interpreted with caution given that alliance to a group is conceptually distinct from typical therapeutic alliance.

The VPPS was scored by external researchers using videos of the therapy session. Whilst the reported reliability was strong, the validity of this tool as a direct measure of the therapists’ personality may be questioned. This is a behavioural measure which, in this case, was assumed to reflect a core personality construct. The VPPS was originally

designed to measure processes only occurring within the therapy room so it might be more safely assumed that this is what the data more precisely reflected.

1.4.2.2 Inventory of Interpersonal Problems (IIP; Alden et al., 1990). Six studies employed the IIP which can be used pre-therapy to capture self-reported personality variables related to two continuums; dominant-submissive and cold-overly nurturing. For example, Hersoug et al. (2001) used the WAI and IIP to suggest a dominant interpersonal style in the therapist was associated with higher patient-rated alliance. Ackerman and Hilsenroth (2003) later interpreted this finding as related to the personality trait 'confidence'.

Hersoug et al. (2001) also reported therapist IIP cold/detached scores negatively correlated with patient- (r = -0.19, p < .01) and therapist- (r = -0.25, p < .01) rated alliance. The patients' IIP cold/detached subscale scores negatively correlated at the third session with both therapist- (r = -0.26, p < .01) and patient- rated (r = -0.26, p < .01) alliance and just patient-rated alliance at the twelfth session (r = -0.14, p < .05) in Hersoug et al.'s (2002a) dataset. Patient IIP cold/detached scores were the only significant contributor to a hierarchical multiple regression model that acounted for 7% of variance in patient-rated alliance at three weeks. As the patients IIP scores became increasingly cold/detached, the alliance weakened. On the other hand, Hersoug et al. (2002b) did not find any significant relationship between patients' IIP scores and alliance even though they used samples from the same Norwegian Multisite Study on Process and Outcome of Psychotherapy (NMSPOP) dataset. This appears to be an artefact of how the IIP scores were calculated; i.e. the 2002b analysis employed an overall score which relates to degree of maladaptation in functioning rather than describing interpersonal qualities, as in the 2002a study. It may also be possible that the Hersoug et al. (2002a) analyses are impacted by a hidden third variable such as higher relationship reporting or degree of positivity.

Indeed, in a sample of 201 patients and 61 therapists, Hersoug et al. (2009a) also reported increasing levels of patient IIP cold/detached interpersonal style were found to be significantly (p = .03) correlated with lower patient-rated alliance up to session 20 but not after this point. The size of this correlation was not reported. No relationships were found for therapist-rated alliance (Hersoug et al., 2009a).

Hersoug et al. (2009b) reported that both therapist- (r = -0.24, p < .01) and patient- (r = -0.28, p <.01) rated alliance negatively correlated with the therapists own IIP cold/detached subscale scores. It was suggested that therapists with higher IIP cold/detached scores might have a more distanced or indifferent interpersonal style which accounted for the lower alliance ratings from patients. Hersoug et al. (2009b) also suggested this interpersonal style left therapists more sensitive to patients' rejection of their intervention and this related to the lower alliance ratings from therapists. This was a large sample (N = 201) and generalisable due to the naturalistic style but no cause-effect relationships could be supported with the methodologies employed.

Hersoug et al. (2013) aimed to explore the relationship between baseline patient characteristics and alliance, and longitudinal outcome measurements. Therefore whilst the study measured IIP and WAI they were not examined in terms of relationship to one another.

1.4.2.3 Social Functioning Scale (SFS; Birchwood et al., 1990). The SFS was developed as a research tool for quantifying level of social and occupational functioning in people with a diagnosis of schizophrenia (Birchwood et al., 1990).

Couture et al. (2006) included the patients' level of social functioning on the SFS as the first step in a hierarchical multiple regression analysis and found it significantly, positively accounted for 16% of variance in therapist-rated alliance. As patients' level of social functioning increased so too did therapist-rated alliance (r = 0.41, p = .04). Patient-

rated alliance, however, was found not to be correlated with any of the predictor variables. They surmised that the patients' level of social functioning influenced therapists' view of alliance formation.

Couture et al. (2006) also reported that details from their outcome measure, the Positive and Negative Syndrome Scale (PANSS; Kay, Fiszbein & Opler, 1987), supported this claim. The hostility, uncooperativeness and excitement subscales, i.e. interpersonal factors, were significantly, negatively associated with therapist- but not patient- rated alliance. The researchers recognised that they had a limited sample size and recommended replication research however they also suggested that, as patient-rated alliance was not associated with either their predictor variables or therapist-rated alliance, important next steps would be to identify predictors of patient-rated alliance, e.g. "client perceptions of therapist characteristics" (Couture et al., 2006, pp.13).

Romeo et al. (2014) also used the SFS with their sample of 65 patients undergoing cognitive behavioural or supportive therapy for schizophrenia or schizoaffective disorder. They used the total SFS score and reported a Cronbach's alpha of 0.65. Multiple linear regression analyses were employed to predict alliance on the WAI-G at the sixth session. Social functioning was included as a covariate, in their alliance prediction model, and made a significant contribution (p = .008-.029) where lower social functioning at baseline was associated with higher alliance at session six. The researchers understood this to mean patients with lower SFS had an impoverished social network and formed group alliance more readily in their eagerness to engage socially. Another proposed rationale was that the patients who had higher SFS scores perceived those around them as lacking in social skills and therefore kept themselves somewhat removed from the group or at least struggled to form an alliance within it. This seemingly counterintuitive relationship may be an artefact

of employing an alliance-to-group measure which cannot be assumed to have the same influences as measures of typical working alliance with an individual therapist.

1.4.2.4 Idiosyncratic measures of recent interpersonal functioning. Piper et al. (1991) utilised an idiosyncratic method of measuring recent interpersonal functioning as a way to predict therauetic alliance. They combined eight measures collected between 1 and 3 months prior to the therapy start date. Patients were asked to complete the emotional reliance subscale of the Interpersonal Dependency Scale (IDS; Hirschfeld et al., 1977), the six subscales of the Social Adjustment Scale (SAS; Weissman et al., 1971), and the present level of functioning subscale from the Interpersonal Behavior Scale (IBS; Piper, Debbane & Garant, 1977). This selection of data were chosen following removal of scales with high interdependency, low response rate, and through a principle component analysis. Patient- and therapist- rated alliance were collated using further idiosyncratic measures and a factor analysis resulted in three alliance scores: patient alliance, therapist immediate alliance and therapist reflective alliance. The two forms of therapist-rated alliance were distinguished by both timepoint and content. Immediate alliance was rated every session and consisted of items related to the depth of material discussed and level of understanding. Reflective alliance was only rated in sessions 7, 14 and 20, and attempted to encapsulate the helpfulness of the therapist and how well the dyad had worked together. Scores were created by taking an average of all respective sessions in an attempt to improve reliability. The univariate analyses showed no significant correlations between any of the predictor variables and either patient-rated alliance or therapist-rated ‘reflective’ alliance and only the partner SAS subscale showed a significant relationship with therapist-rated ‘immediate’ alliance. Most (N = 63-64) patients completed six of these scales but differential response rates impacted the partner (N = 47) and parental (N = 32) subscales of the SAS.

Overall, this limited sample has some methodological issues but suggests that recent interpersonal functioning may not be a useful predictor, however, it should be noted that again this measure may quantify problems rather than describe interpersonal style in a way that relates to personality variables.

1.4.2.5 Psychodynamic Functioning Scale (PFS; Høglend et al., 2000). The PFS was developed by Høglend et al. (2000) in pilot of the later collaborative Hersoug et al. (2009a; 2013) papers. It aimed to capture quality of family relationships, friendships, romantic/sexual relationships, tolerance of affect, insight and problem-solving capacity over the preceding three months. These clinician-rated scores produced two factors; PFS Interpersonal functioning, which describes interpersonal style and social functioning, and PFS Intrapsychic functioning, which encompasses the other psychodynamic functioning components such as emotional understanding, expression, control, tolerance, insight and the ability to recognise difficulties in relation to present and past experience. A total score is also produced. The PFS was rated by three independent clinicians at every timepoint and found to have an excellent inter-rater reliability (0.91) in the Hersoug et al. (2013) paper.

Hersoug et al. (2009a) assessed inter-rated reliability in two samples of 20 patients from their total of 201. For these samples, the total intraclass coefficients were good-excellent (0.71 and 0.79) whilst the PFS Interpersonal subscale had an overall intraclass coefficient of 0.69 (good). They reported that there were no significant associations between therapist-rated alliance and patients' PFS interpersonal functioning scores. However, patient-rated alliance showed a significant, long lasting relationship (centred at session 20, 60, and 120), in which higher current interpersonal functioning ratings were related to higher therapeutic alliance ratings. Perhaps this indicated that some patients were better at relationship formation, as Hersoug et al. (2009a) suggested. An alternative explanation is that it reflected that some patients were inclined to rate relationships or

interactions with other people more favourably. The analysis was correlational so causation cannot be implied but the second rationale accounts for the lack of association in the therapist-rated alliance scores.

Hersoug et al. (2013) used the total PFS score as an outcome measure with alliance on the WAI as a predictor. They reported that patient-rated alliance at session seven was significantly, positively associated with patient psychodynamic functioning three years post-therapy.

This is another example of a measure of interpersonal functioning providing scores pertaining to quality or skill rather than describing style and therefore may not be a direct measure of personality.

1.4.2.6 Summary of interpersonal variables. Few studies looked at the quality of interpersonal interactions, however, the IIP studies suggest that increased scores on the IIP cold/detached scale in either the therapist or patient were correlated with decreasing patient- and therapist- rated alliance. This was supported by Romeo et al. (2014) using the VPPS to show that therapist warmth positively correlated with patient-rated alliance.

Whilst this collection of studies showing IIP to WAI relationships seems to suggest a stable underlying association within the data, caution is advised. The IIP was originally designed as a way of quantifying patients' interpersonal difficulties in order to measure psychotherapy outcome (Barkham, Hardy & Startup, 1996; Muran, Segal, Wallner Samstag & Crawford, 1994) and not as a way of describing a facet of personality. Results must therefore be interpreted with care and their validity questioned. Further, although the reported score looked strong, only one of these six studies reported the Cronbach's alpha for reliability of the IIP. Given that they all rely on samples from the same NMSPOP dataset it is likely, but not demonstrated, that they would be similar.

The VPPS was scored by skilled researchers using videos of the therapy session and showed good reliability but the validity of this tool as a personality measure is questionable. It was designed to measure processes only occurring within the therapy room so it might be more safely assumed that this what the data reflects.

A number of studies looked at interpersonal ability rather than qualities. The studies into interpersonal factors which employed the SFS, for example, suggested that overall level of social functioning in patients is associated with alliance. On the other hand, whilst Piper et al. (1991) had a limited sample and some methodological issues, these data suggested that other measures of interpersonal functioning may not predict alliance. Level of psychodynamic functioning on the PFS (Hersoug et al., 2013) and specifically the interpersonal subscales (Hersoug et al., 2009a) showed significant assocations with patient-rated but not therapist-rated alliance.

It should be noted that these measures of social (SFS) or psychodynamic (PFS) functioning, whilst not specifically diagnostic, quantify interpersonal problems rather than describe interpersonal style as a personality construct. These studies are therefore assumed to add to the literature regarding the relationship between alliance and outcome but less so to personality constructs which relate to alliance formation.

1.4.3 Personality Organisation

1.4.3.1 Trait Descriptive Adjectives (TDA; Goldberg, 1992). The TDA is reported to be in the top three of the Big Five personality measures (John & Srivastava, 1999), producing five subscale scores for agreeableness, conscientiousness, neuroticism, extraversion and openness. Goldberg (1992) reported the internal reliability of the TDA subscale scores was strong (0.84-0.90). Coleman (2006a) reported that patient-rated alliance was positively and strongly correlated with patient self-reported agreeableness (r = 0.46) and openness (r = 0.46), and moderately with extraversion (r = 0.21) and

conscientiousness (r = 0.30). There was no significant relationship between patient self-reported level of neuroticism on the TDA and patient-rated alliance.

Coleman (2006b) started with the same dataset but then used a subset for whom there were matched therapist data and did not report reliability scores for the reduced dataset. Patients' and therapists' personality characteristics on the TDA were matched using Q-correlation methodology to provide a similarity score for each dyad. There was no association between patient-rated alliance and patient-therapist similarity on the five subscales but global personality match was strongly and negatively correlated with therapeutic outcome. Further, for females only, patient extraversion (r = 0.38) and global personality similarity (r = 0.23) were moderately associated with improved patient-rated alliance. Patient personality measures were therefore directly and indirectly associated, via their use in matching to a therapist, whilst therapist personality measures did not directly correlate with alliance. There were no significant relationships between alliance and male patients' personality subscales or similarity scores, however, the study was underpowered with just 11 male patients.

The Coleman (2006a; 2006b) studies produced some interesting results which could be usefully replicated and developed in future research had the studies reported enough details to do so. The papers do not include details such as when alliance was rated and the current author makes the assumption that alliance was rated by patients.

1.4.3.2 Neo Five Factor Inventory (NEO-FFI; Costa & McCrae, 1992). The NEO-FFI was designed to succinctly capture and describe an individual's personality profile in accordance with the Big Five personality traits; agreeableness, conscientiousness, neuroticism, extraversion and openness. It is a well-supported and utilised tool with strong and varied evidence pertaining to its' reliability and validity as a personality measure (McCrae, Kurtz, Yarnagata & Terracciano, 2011) across cultures (McCrae & Allik, 2002).

Chapman et al. (2009) reported good internal consistency for their NEO-FFI components with Cronbach's alpha estimates between 0.75 and 0.79. Chapman et al. (2009) collected NEO-FFI questionnaire data from trainee therapists and then statistically analysed this alongside patient- and therapist- rated alliance on the WAI-S. Semi-parametric Generalized Estimating Equations (GEE; Burton, Gurrin & Sly, 1998) were employed because the five trainee personality factors showed skewed distributions with non-independent observations, i.e. therapists saw multiple clients.

The mean results indicated that trainees with higher levels of neuroticism had higher patient- but lower therapist- rated alliance. Trainees with higher self-reported openness scores had higher patient-rated alliance than those with lower openness scores but trainees with higher agreeableness scores had lower therapist-rated alliance.

The subcomponents of the Big Five personality traits were statistically explored. Neuroticism was divided into two components; negative effect and self-reproach. Therapist negative effect was statistically positively correlated with patient-rated alliance whilst self-reproach showed no significant relationship. Conversely, self-reproach was significantly positively correlated with therapist-rated alliance whilst negative effect had no relationship. Agreeableness was divided into prosocial orientation and non-antagonistic orientation. Therapist-rated alliance was significantly, negatively associated with non-antagonistic orientation. No associations were found for prosocial orientation or patient-rated alliance.

Openness was divided into intellectual interests, aesthetic interests and unconventionality. Chapman et al. (2009) reported a negative trend between patient-rated alliance and the intellectual interests component only.

However, the skewed distribution of trainee personality traits should be taken into account when interpreting the results. For example, the overall level of trainee neuroticism

was so low compared to the general population that "higher neuroticism" really meant "slightly above average levels, according to national norms" (Chapman et al., 2009, pp. 589). Results therefore suggested average levels of neuroticism related to improved patient-rated alliance. Given that the subcomponent associated was negative effect, the researchers proposed that the mechanism was improved therapist empathy.

A similar pattern emerged from the openness data as the trainees scored an average of 0.8 standard deviations above the norm. Thus average rather than high openness correlated with improved patient-rated alliance, perhaps as those that were exceedingly high in openness might "intimidate or perplex clients" with lower levels of openness (Chapman et al., 2009, pp.590). It was perhaps unsurprising that trainees higher in self-reproach evaluated their therapeutic alliance more critically. The researchers hypothesised that agreeableness was negatively associated with modesty and therefore trainees under-rated their alliance-formation skills.

The Chapman et al. (2009) data produce a detailed and interesting pattern however there were a number of study limitations. It is possible that the sample did not represent a random selection of the therapists caseload and there is no information available regarding patients' psychopathology. The inclusion of some court mandated patients at one of their three testing sites may also have skewed alliance ratings. Chapman et al. (2009) also did not explore the "highly likely" (pp.591) interaction between therapist and patient personality variables.

Zimmerman and Bambling (2012) also asked their therapist participants to complete the NEO-FFI. In this paper, only patient-rated alliance was collected using the WAI-S. Their second hypothesis was that therapist factors of "attitude, personality, self-efficacy, and attachment would predict client-rated alliance" (pp.80). Given this, it was therefore surprising that the relationship between the NEO-FFI and WAI-S scores went unreported.

Perhaps this was a statistical necessity given the small sample size (23 patients providing 95 alliance ratings regarding their relationship with one of the 10 therapists). They instead reported that therapist attachment style on the Adult Attachment Scale (AAS; Collins & Read, 1990) and artistic attitude regarding their profession on the Therapist Attitudes Scale – Version 3 (TASC-3; Sandell et al., 2004) were significant predictors of patient-rated alliance.

The NEO personality assessment tools have been criticised for not controlling for biases around social desirability. Recommendations by Ben-Porath and Waller (1992), however, regarding employing control measures regarding dishonesty and social desirability were not adopted by any of the five factor model studies.

1.4.3.3 Personality Identity on the Development of Psychotherapist Common Core Questionnaire (DPCQQ; Orlinsky et al., 1999). The DPCQQ was developed as a way of analysing the professional and personal characteristics of therapists. Although Heinonen et al. (2014) did not report the reliability scores for their DPCCQ data, previous research suggests that this tool has good internal reliability (Orlinsky & Rønnestad, 2005). Heinonen et al. (2014) looked at the personality identity component of the DPCCQ in conjunction with therapist- and patient- rated alliance on the full form WAI at week three and month seven, as well as change over time. Patient-rated alliance was significantly, negatively correlated with the therapist personality constructs ‘forceful’ and ‘reclusive’ but positively correlated with ‘private’. Differences were found in the predictors of therapist-rated alliance between those engaging in long- and short- term therapies. In long-term therapy, therapist ‘warm’ and ‘open’ ratings were positively correlated with therapist-rated alliance at week three but this was a negative correlation for short-term therapies. Particularly in short-term therapies, therapist-rated alliance was positively correlated with therapist score on the scales ‘task oriented’ and ‘sceptical’ but negatively with ‘aloof’.

There were no significant relationships, however, between therapist personal characteristics and change on the WAI for either patients- or therapists- ratings.

Heinonen et al. (2014) therefore concluded that there was a relationship between early alliance and therapist personality features but this varied with therapy type/duration. There were, however, 43 patients that discontinued prematurely and this was not distributed evenly thoughout the groups. This may therefore pose a confounding variable. Another potential confounder, was that for the short-term therapies only, alliance ratings at later timepoints was completed retrospectively. The effect of this was unknown.

It should be noted that therapists rated themselves, and did so on a tool with "Development of Psychotherapist" in the title, as well as assessing personal and professional characteristics alongside one another. It might be suggested that these factors increase the risk of social desirability- type biases. The authors indeed support the recommendation that further replication studies include multiple measures of therapist characteristics from various viewpoints. They also suggest research moves towards employing "alliance and therapist characteristics as predictors of outcome to uncover the mechanism underlying therapist effects in psychotherapy" (Heinonen et al., 2014, pp. 491).

1.4.3.4 Inventory of Personality Organisation (IPO; Kernberg & Clarkin, 1995). The IPO is based upon two interpersonal relations subscales and the three-part Kernberg personality model. It uses self-report likert scale responses to produce five subscales with reportedly good internal consistency (Lenzemweger, Kernberg & Foelsch, 2001). The two interpersonal relations scales are relevant to BPD symptomology; pathological object relations and superego pathology. The three personality subscales (reality testing, identity diffusion, and primitive psychology defences) provide descriptive data whilst the five scores combined generates a total score which corresponds to level of pathological characteristics and impairment. Spinhoven et al. (2007) utilised the IPO alongside two

alliance measures; therapist and patient forms of the WAI-S and the therapist-rated Difficult Doctor-Patient Relationship Questionnaire (DDPRQ; Hahn et al., 1994). The overall therapist IPO scores significantly, positively correlated with change in patient-rated alliance ($r = 0.30$, $p < .05$).

The researchers also employed the Young Schema Questionnaire (YSQ; Young & Brown, 1994), which has elements of personality represented through the rating of core beliefs but, as this is a tool designed solely for distinguishing psychiatric diagnoses, it will not be fully discussed further here.

The level of dissimilarity in personality profile between each therapist-patient dyad was calculated using the sum of the squared differences on the five IPO subscales. The larger the score, the greater the dissimilarity. Early to mid-treatment change (3 to 15 months) in patient-rated alliance on the WAI-S was significantly positively correlated with IPO dissimilarity irrespective of treatment condition (Solution Focused Therapy or Transference Focused Therapy). There was, however, no relationship for either of the therapist-rated alliance measures or patient scores pertaining to later alliance ratings (15 to 33 months).

Neither the YSQ nor the IPO was intended as a descriptive personality measure and both are based around describing pathology. This limits findings and may account for a further study limitation: All 44 therapists were invited to complete the YSQ and IPO as measures of their own personality/personality dysfunction however 14 declined and submitted only their patients' scores. Statistical analyses are therefore based on a self-selected group of therapists who may have a confounding personality feature such as higher levels of altruism or trust, or lower levels of dysfunction or personal insight. Further, only three therapists had doctoral level training with the majority ($N = 37$) at masters level. Finally, therapist personality characteristics were measured at three months

into therapy, rather than baseline, and therefore may have already been affected by interactions with the patient. Results should therefore be interpreted with caution and the generalisability of this small, potentially confounded sample, restricted.

1.4.3.4 Summary of personality organisation. Personality organisation ratings correlated with patient- and therapist-rated alliance differently.

Patient-rated alliance positively correlated with patient agreeableness, openness, extraversion and conscientiousness (Coleman, 2006a), female patient extraversion and female global personality similarity to the therapist (Coleman, 2006b) using the TDA. Patient-rated alliance also positively correlated with therapist neuroticism (especially negative effect) and therapist openness but negatively with therapist intellectual interests on the NEO-FFI (Chapman et al., 2009) and positively with therapist 'private' but negatively with therapist 'forceful' and 'reclusive' on the DPCCQ (Heinonen et al., 2014). Dissimilarity of pathological personality score on the IPO was perhaps unsurprisingly positively correlated too (Spinhoven et al., 2007).

Therapist-rated alliance negatively correlated with therapist neuroticism (especially self reproach) and agreeableness (particularly a non-antagonistic orientation) on the NEO-FFI (Chapman et al., 2009). Therapist-rated alliance varied according to therapy type such that warmth, openness, scepticalness, and task orientation positively correlated for short-term therapies. However, warmth and openness negatively correlated with therapist-rated alliance in long-term therapies using the DPCCQ (Heinonen et al., 2014).

The five factor model studies are easier to interpret in terms of stable personality traits because they are grounded in personality theory and are not designed to describe pathological personality functioning. These studies require much replication and employment of controls for social desirability would be useful.

1.4.4 Quality of Object Relations

Quality of object relations might be defined as an individual's typical relationship pattern or their lifelong tendency to develop particular types of relationship (Wolfaardt & Joyce, 2005). It was developed out of psychoanalytic theory as the process by which the psyche matured suggesting that each person cultivated a pattern of interpersonal responding as a consequence of their childhood experiences (Greenberg & Mitchell, 1983). Research into attachment theory has supported and overlapped with the idea of object relations (Ainsworth, 1969) and developmental psychologists concur that early experience shapes later relationship patterning (Hartup, 1989). Thus, object relations became a useful term regarding personality and relationships in general psychology without including the adoption of full psychoanalytic rationale (Hamilton, Sacks & Hamilton, 1994).

1.4.4.1 Mutuality of Autonomy Scale (MOA; Urist, 1977). The MOA scale is a clinician-rated outcome measure used to score the Rorschach Inkblot Test and generate patient scores for object relations on a continuum from mutuality, respect and capacity for autonomy (scored 1-2) through to increasingly malevolent relationships defined by a lack of boundaries (scored 5-7). It has reportedly good clinical reliability and validity (Bombel, Mihura & Meyer, 2009; Monroe, Diener, Fowler & Hilsenroth, 2013) and Sanders et al. (2014) reported excellent intraclass correlation coefficients. Sanders et al. (2014) used four MOA outcome scores. 'MOA mean' was defined as the patients' prototypical response. 'MOA low' represented the patients healthiest or most adaptive response whilst 'MOA high' was the highest or most pathological response given. Finally, 'MOA path' was created by summing all scores of 5, 6 and 7 for a given patient. These scores were analysed in conjunction with the Combined Alliance Short Form – Patient version (CASF-P; Hatcher & Barends, 1996). There was no significant relationship between the overall MOA and alliance scores but Pearson's *r* (-0.24) was significant for the Mean MOA and CASF-P

bond subscale (p = .04), i.e. as object relations became more malevolent, therapeutic bond reduced.

Sanders et al. (2014) reported this was the first study to examine these variables together and it apparently remains the only one to date. There are, however, a number of limitations restricting the generalisability of the data; the outpatient sample only included mild-moderate psychopathologies, the therapists were all graduate trainees, and the findings and interpretations are very much in line with psychodynamic theory so exploration of other therapeutic techniques and rationale would be beneficial. For example, the Rorschach Inkblot Test is purported to uncover unconscious material thus this measure of object relations may well be qualitatively different than other ways of accessing internal representations of the self, others and relationships.

1.4.4.2 Quality of Object Relations Scale (QOR: Azim et al., 1991). The QOR was designed to allow the clinician to quantify and classify a patients' lifelong tendency to establish particular patterns of relationships (Azim et al., 1991). Hersoug et al. (2013) used three raters and found an excellent intraclass correlation (0.84). This study looked at the relationship between QOR at baseline and patient-related alliance on the WAI-S at session seven and found a significant negative relationship (r = -0.04, p = .01). Hersoug et al.'s (2013) statistical model of WAI-S included QOR as well as three further variables and accounted for 24% of alliance variance. The other variables were two measures of expectancy regarding treatment and the total number of personality disorder criteria identified on the SCID-II. Whilst the model itself explained a substantial proportion of variance, expectancy beliefs accounted for the majority. This study provided, therefore, an interesting but limited glimpse at how QOR could be measured or used in a combined statistical model to predict alliance however the results need replication before they can contribute significantly to the personality construct literature.

1.4.4.3 QOR interviews. Two papers used interview methods in order to measure QOR (Piper et al., 1991; 2004). Piper et al. (1991) used a two-hour unstructured interview with 64 patients before commencing approximately 20 sessions of dynamically-orientated therapy. The interviewer scored the patient along a QOR scale from primitive to mature and then divided patients into two groups. Scores of 0-4.5 were deemed low QOR and 5-9, high QOR. A second independent rater scored 50 interviews using an audiotape which resulted in an intraclass coefficient of 0.50. This is considered fair (Cicchetti & Sparrow, 1981; Fleiss, 1981) but is the lowest within the current group of studies. Alliance was quantified by patients and therapists rating six idiosyncratic likert scales at sessions 7, 14 and 20 then creating an average. Principle component analysis was used to divide data into three groups; patient-rated alliance, therapist-rated immediate alliance and therapist-rated reflective alliance. Pearson product moment correction coefficients showed significant ($p < .05$) relationships between QOR, and patient-rated alliance ($r = 0.29$) and therapist-rated reflective alliance ($r = 0.28$). In both cases, as the QOR score increased so too did alliance rating.

Piper et al. (2004) used one-hour semi-structured interviews to measure recent, past and immediate relationships. The immediate relationship was accessed through the interactions with the interviewer and scores allocated which corresponded to five ascending levels of relational ability and style; primitive, searching, controlling, triangular and mature. The procedure was standardised using a manual (Piper et al., 1996) and inter-rater reliability checked by using five individual raters to score a sample of 24 patients using audiotapes. Reliability was found to be good (.68). The full sample ($N = 144$) was rated twice and averaged. These data were compared with idiosyncratic alliance scales which were aggregated across 20 sessions. They also looked at therapist- and patient- rated alliance change over time by calculating a linear slope estimate for each. These two

'alliance slopes' were not significantly correlated with the QOR scores. This may be in part due to quite a high degree of variation in the slope estimates although the reliability (or proportion of non-error variance) was still good (patients' alliance slope was 0.67 and therapists' was 0.72). The patients were grouped into high-QOR and low-QOR scores and this was statistically considered alongside patient-rated alliance at session one and the average of sessions 1-7. Again, the correlations reported were small and non-significant. No significant findings were reported regarding analyses between QOR and therapist-rated alliance. The researchers concluded that high- and low- QOR patients began with similar alliance ratings, however, they do not appear to have conducted a statistical analysis to determine if the high-QOR and low-QOR group had significantly different average alliance scores which appears to be a more robust method of supporting this claim. Piper et al. (2004) instead employed a hierarchical analysis to predict therapeutic outcome using QOR and alliance ratings. They concluded that QOR acted as a moderator between patient-rated alliance and therapeutic outcome in Interpretative Therapy (IT). When high-QOR patients had increasing alliance across the therapeutic period, they did better on outcome measures. Conversely, when low-QOR patients had decreasing alliance, they had better outcomes. This was not replicated with the group which completed Supportive Therapy (*N* = 72). This unexpected finding was discussed in terms of patients' ability to respond to IT technique which requires taking responsibility for leading the sessions, bringing forth difficult topics and managing the therapists' confrontations and interpretations. Low-QOR rated patients might be expected to have high expectations that are rapidly damaged and lead to feelings of threat or rejection. They surmised that different patients responded in different ways to therapies but that alliance appeared to consistently be related to outcome, and suggested further studies should be designed specifically to evaluate the possible interactions.

1.4.4.4 Summary of Quality of Object Relations. These four studies looked at the patients lifelong relational patterning or quality of object relations, but none considered therapist QOR. Malevolence of object relations was found to negatively correlate with patient-reported alliance (Hersoug et al., 2013) and particularly with the bond subscale (Sanders et al., 2014). This was supported by papers measuring the quality or maturity of object relations i.e. patient-rated alliance and therapist-rated reflective alliance positively correlated with quality of object relations (Piper et al., 1991) and Piper et al. (2014) suggested QOR moderated between alliance and outcome.

In keeping with the developmental history of QOR, all four studies based data collection within a psychodynamic setting. Future research could usefully improve generalisability by measuring QOR in other therapeutic orientations.

1.5 Discussion

1.5.1 Main Findings

This literature review originally aimed to explore the relationship between values and alliance but found it necessary to expand the term ‘values’ to include other personality constructs. The extended criteria included any measure of personality, characteristic or trait that described an intrapersonal dimension and excluded professional, demographic or diagnostic variables. Following this extension, a group of four variables emerged from the literature; values, interpersonal style, personality organisation, and quality of object relations. The review encompassed 17 quantitative studies but no qualitative ones.

1.5.1.1 Therapist Characteristics. A limited number of studies, 6 of 17, employed measures of therapists’ personality (Chapman et al., 2009; Heinonen et al., 2014; Hersoug et al., 2001, 2009b; Romeo et al., 2014; Zimmerman & Bambling, 2012).

There were positive correlations between patient-rated alliance and therapist openness (Chapman et al., 2009), warmth (Romeo et al., 2014), a dominant interpersonal style (Hersoug et al., 2001), and 'private' scores (Heinonen et al.,2014)

A negative correlation was found for therapist agreeableness (Chapman et al., 2009), negative attitude (Romeo et al., 2014), cold/detached interpersonal style (Hersoug et al., 2009b), and therapist 'forceful' and 'reclusive' scores (Heinonen et al.,2014)

Therapist scores on scales for warmth and openness correlated positively with short-term but negatively with long-term therapies therapist-rated alliance scores (Heinonen et al., 2014). Similarly, neuroticism correlated positively with patient-rated alliance but negatively with therapist ratings (Chapman et al., 2009)

1.5.1.2 Patient Characteristics. "It seems relatively obvious that client personality" would impact alliance and outcome (Coleman, 2006a, pp.84), however, a research base to support this claim is only now becoming established. Most of the papers in this literature review, 14 of 17, measured patient personality (Coleman, 2006a; 2006b; Couture et al., 2006; Hersoug et al., 2001; 2002a; 2002b; 2009a; 2009b; 2013; Piper et al., 1991; 2004; Romeo et al., 2014; Sanders et al., 2014; Spinhoven et al., 2007).

Patients' level of interpersonal functioning (Hersoug et al., 2002a; 2009a; 2013), quality of object relations (Piper et al., 1991; Sanders et al., 2014), and agreeableness, openness, extraversion and conscientiousness (Coleman, 2006a) were found to be significantly and positively associated with aspects of alliance. However, interpersonal style had no significant relationship with alliance in one study (Hersoug et al., 2002b). Couture et al. (2006) reported that patients' level of social functioning positively correlated with alliance but Romeo et al. (2014) reported a negative correlation. Piper et al. (2004) reported that QOR acted as a moderator between alliance and therapeutic outcome in

Interpretive Therapy, such that patients with high QOR and increasing alliance and patient with low QOR and decreasing alliance had the best outcomes.

1.5.1.3 Dyad Characteristics. Hersoug et al. (2001) reported a significant positive correlation between value similarity and patient-rated but not therapist-rated alliance at session 12 but not before. Hersoug et al. (2013) suggested that as dyad value similarity increased, so too did alliance rating. Spinhoven et al. (2007) reported personality dissimilarity significantly positively correlated with alliance but Coleman (2006b) found the similarity correlated for female patients alliance ratings.

1.5.2 Critical Review of the Literature

Despite the wealth of research into in-session activity, processes and therapeutic alliance, there appears to be a less coherent body of work directly measuring personality, and specifically values, of both patients and therapists, and how these might affect the development and/or maintenance of alliance. What research there is has some methodological issues.

1.5.2.1 Study Design. A number of the papers had good sample sizes; five studies had more than 200 patients, three studies included between 100 and 200, and nine studies had less than 100. A clear critique of this body of research, however, is the number of papers that have opportunistically analysed alliance and characteristics via taking a subset of data from a wider clinical trial (Hersoug, et al., 2001; 2002a; 2002b; 2009a; 2009b). This trial include some 370 patients but each of the reported studies took samples from this unselected, naturalistic group without full review of possible confounding variables or use of a control group.

At this stage, with limited papers to compare, the results may therefore be difficult to generalise beyond a small sample of Norwegian patients whose data has been reused

multiple times (NMSPOP). It is recommended that future studies are specifically designed from the outset in order to best address the question and reduce methodological concerns.

Further these data were correlation and causal patterns still need investigation.

1.5.2.2 Patient Participants. A number of studies reported they included a range of diagnoses however further inspection revealed that they had excluded psychotic disorders due to expected interference with therapeutic alliance (e.g. Spinhoven et al., 2007). The two studies that included patients with diagnoses of schizophrenia, Couture et al. (2006) and Romeo et al. (2014), employed only measures of interpersonal style (i.e. social functioning), therefore there was no information available regarding how alliance and values, personality organisation or quality of object relations interact within patients diagnosed with schizophrenia.

The search criteria excluded people below the age of 18 and the resulting group had means between 28.2 and 42.1 years. No studies looked at an older population. Furthermore, there was an over-representation of female participants (both patients and therapists) with 15 of the 17 studies reporting greater percentages of female patients. It may be that older populations or male participants experience alliance formation or maintenance differently but this cannot be inferred. The predominance of female patients may be especially important given that one study found males and females produced different patterns of results regarding the relationship between personality and alliance (Coleman, 2006b). This finding is supported by early research into alliance-outcome relationships (Mendelsohn & Rankin, 1969).

The Hersoug papers report demographic details and are transparent about the reuse of data however papers with different samples report the same demographic statistics (e.g. Hersoug et al. 2002a and 2009b) which suggests that the data were not reanalysed to check for skewedness.

1.5.2.3 Therapist Participants. Demographic data for the therapist participants was reported in less detail but six studies were based in Norway, six in the USA, two in Canada, one in Australia, one in Finland, and one in the Netherlands. There was therefore a relatively homogenous, Western and Caucasian, sample which further limits generalisability.

It is unclear how or whether being a psychotherapy trainee influences alliance formation or maintenance however a number of studies included trainees rather than qualified therapists. It is possible that training status introduces a confounding variable or interacts with another personality construct in the relationship with alliance. This was not explored or controlled for by any of the studies.

A number of the therapists worked within multiple models, or did not define their mode of working, whilst the researchers who compared alliance-personality relationships between therapy modality groups found significant differences. It should not be assumed that alliance and personality interact in the same way irrespective of therapist variables and therapeutic orientation.

1.5.2.4 Measures. All of the papers that looked at therapist traits analysed either personality organisation or values. This may be an artefact of difficulties selecting scales for descriptive purposes rather than diagnostic or problem-defining terms but it means that no conclusions can be drawn regarding therapist quality of object relations or interpersonal style.

Whilst a key concern of the current review was to move away from behavioural measures of intrapersonal factors, this has nearly wholly resulted in reliance on self-report questionnaires. Self-report scales are quick, cheap and readily applied to most patient groups through a range of methodologies including in space-restricted clinics or via the post or internet afterwards. The studies reported good reliability statistics and many of the

measures had a strong evidence base however self-report allows room for bias. It poses a question around how accurate participants are at describing their own personality. Future studies may benefit from utilising a range of these self-report questionnaires in order to reduce some of the unavoidable limitations.

Even with the more descriptive tools, given that personality or relationship type questions can be emotionally charged, it is possible that results were subject to the availability heuristic (Schwartz et al., 1991) and may not accurately reflect longer term dispositions. Additionally, confirmation bias (Oswald & Grosjean, 2004) may have influenced results by participants providing descriptions of who they want to be rather than how they actually are.

Another possible bias is the Dunning-Kruger effect: the tendency of unskilled participants to over-rate their skill whilst skilled participants under-rate (Kruger & Dunning, 1999). Data does not suggest how the Dunning-Kruger effect might influence therapist-ratings of alliance given the variable patient social skills and that establishing working alliance is a core competency for therapists.

1.5.3 Limitations of the Literature Review

The original aim of the literature review pertained to the relationship between personal values and therapeutic alliance. Despite an exhaustive search, the literature was not mature enough for this process and only one paper fulfilled the strict criteria. The resulting literature review therefore included papers with an array of related personality constructs. Whilst this may provide an interesting narrative, it does not address the critique of former reviews in that it does not tackle the question of values directly. It is not clear how experimenter or publication bias, which favours significant findings and supported hypotheses, may have influenced this.

Further, the database search utilised generalised terms to detect papers pertaining to personality constructs. A more inclusive review would need to include all known personality constructs and variables by name.

With few studies within each of the personality construct groups, it is difficult to draw firm conclusions regarding the existence of a relationship with alliance.

1.5.4 Implications

This review has summarised the current literature regarding personality and alliance. Although in formative stages, the vast majority of findings suggested that both therapist- and patient- rated alliance are impacted by a range of personality constructs. Further research is needed but potentially, therapist awareness of their unique set of variables and how these might interact within each new therapist-patient dyad, may be useful to the alliance process. It has been hypothesised that this interaction between dyad variables may be the difference between consistent successful development and maintenance of alliance or repetitive therapeutic breakdown (Robinson, 2009).

More research ino this area is required, but therapist awareness of their own set of values and characteristics may transpire to influence alliance development, or maintenance. This has implications for the training of future therapists and for doctoral training programmes. It may encourage the use of therapist values measures during the recruitment of new therapists or at least as part of supervisory practice. "Knowledge of how trainee personality characteristics affect alliance may be useful to supervisors and educators. Trainees whose dispositions suggest difficulty in alliance formation may benefit from focus on this skill in supervision, while for those dispositionally apt to form effective alliances, supervision efforts may be dedicated to other areas in greater need of work" (Chapman et al., 2009, pp.579).

Given that alliance and therapist values may be as important as therapeutic technique, future research may consider whether employers and supervisors should cultivate an awareness of personal values as part the Continuing Professional Development of therapists.

No research has employed therapist and patient personality measures during the process of allocating patients to therapists but research into this area may also be useful in order to develop efficient models to support patients most effectively.

1.5.5 Conclusion and Future Directions

Therapist variables might be observable like gender, age, training level, experience, or race however they also include inferred traits like personality and values (Robinson, 2009). This literature review cannot support the claim that "who provides the therapy is a much more important determinant of success than what treatment approach is provided" (Miller, Hubble & Duncan, 2008, pp.14), however, alliance is an important factor related to therapeutic outcome (e.g., Baldwin, Wampold & Imel, 2007). The literature suggests that values and personality constructs may impact upon this. The evidence is patchy, limited and in its infancy still. However, it suggests that future research into the relationship between alliance and personality constructs, particularly values, would be highly beneficial. These proposed studies should use therapist- and patient- rated measures of alliance and reliable, validated methods of measuring personality that are descriptive rather than diagnostic.

Ultimately, research should also be conducted to determine whether alliance and/or outcome benefits can be conferred by utilising pre-therapy patient and therapist measures of personality and values before allocating patients to therapist.

Chapter 2: Empirical Research Paper

The Role of Values in Therapeutic Alliance

2.1 Introduction

2.1.1 Alliance

Therapeutic alliance has been defined as the working relationship between patient and caregiver upon which the therapeutic process rests (Horvath & Luborsky, 1993). Baldwin, Wampold and Imel (2007) argued that alliance consistently predicts therapeutic outcome across a wide range of setting and treatments. Ratings of therapeutic alliance have even been deemed the best predictor of outcome (Martin, Garske & Davis, 2000) and the relationship between therapeutic alliance and outcome has now been demonstrated as statistically and clinical significant in hundreds of studies (Orlinsky, Ronnestag & Willutski, 2004).

There are likely two phases of alliance (Horvath & Luborsky, 1993). Research suggests that phase one, or the "helping alliance" where the patient learns that the therapist is supportive (Luborsky, 1976), generally develops within the initial five therapy sessions and may peak at session three (Saltzman, Leutgert, Roth, Creaser & Howard, 1976). Phase two is more about collaborative working (Luborsky, 1976) and may typically develop much later in therapy. In order to assess both types, alliance would need to be measured at least twice during the therapeutic process.

Patient-rated alliance is generally preferred over therapist ratings as it is generally considered to be more predictive of outcome (Hersoug et al., 2001; Horvath & Greenberg, 1994; Horvath & Symonds, 1991; Piper et al., 1991).

Characteristics of therapists predictive of a strong alliance. It has generally been established that therapist characteristics affect therapeutic alliance. Therapist traits which

have shown positive correlations include in-session, behavioural measures of acceptance (Allen, Newsom, Gabbard & Coyne, 1984), compassion (Van de Mark et al., 2010), empathy (Moyers, Miller & Hendrickson, 2005), flexibility, warmth, honesty, respect, trustworthiness, and openness (Beutler et al., 2003), and warmth/friendliness, openness and extraversion (Romeo et al., 2014). A key limitation of these studies is that they all employ indirect behavioural measures of in-session behaviours in order to assess an intrapersonal variable. Another way to capture intrapersonal scores is pre-therapy via self-report.

Wogan (1970) conducted a small, early study which showed a significant relationship between a direct measure of therapist personality and therapeutic alliance. He reported that therapist trait anxiety was positively correlated but level of repressiveness was negatively correlated with alliance. However, the personality measure used (Minnesota Multiphasic Personality Inventory, MMPI; Schiele, Baker & Hathaway, 1943) has since been heavily criticised due to significant validity flaws and has now been retracted and replaced completely.

Therapist personality and alliance have now been researched using the well validated NEO Five Factor Inventory (NEO-FFI; Costa & McCrae, 1992). Chapman et al. (2009) showed a positive correlation between therapist NEO-FFI scores for neuroticism and openness and, patients alliance ratings. Using the newer personality identity component of the Development of Psychotherapist Common Core Questionnaire (DPCQQ; Orlinsky et al., 1999), Heinonen et al. (2014) also found significant negative correlations between therapists scores for forceful and reclusive, and patient-rated alliance. Therapist scores for 'private' were positively correlated with patients' alliance ratings. See Chapter 1 for a fuller discussion of the methodological considerations.

Whilst Robinson (2009) outlined the importance of understanding and recognising the impact of therapist variables on the patient and therapeutic alliance, the literature is still ambiguous about possible effects.

Characteristics of patients predictive of a strong alliance. "It seems relatively obvious that client personality would impact alliance and outcome" (Coleman, 2006a, pp.84), however, this intuition is only becoming evidenced now. Recent advances in the area from indirect behavioural measures of personality suggest there is a relationship between therapeutic alliance and patient characteristics such as self-confidence (Dale et al., 2011), optimism (Geers, Weilman, Seligman, Wuyuk & Neff, 2010) and self-efficacy (Bogenschutz, Tonigan & Miller, 2006).

Couture et al. (2006) found patients' level of social functioning positively correlated with therapist-rated alliance but Romeo et al. (2014) found it negatively correlated with group alliance. Hersoug et al. (2009a) reported patients' level of interpersonal functioning was significantly associated with patient- but not therapist- rated alliance. Sanders et al. (2014) showed that as a patients' object relation score, or typical pattern of relationships, became more malevolent, scores for therapeutic bond reduced. This finding was supported by Piper et al.'s (1991) earlier research who evidenced improvements in patients' quality of object relations corresponded to increased alliance ratings.

Hersoug et al. (2002a) found that patients' ratings of interpersonal style on the cold/detached dimension of the Inventory of Interpersonal Problems (IIP; Alden et al., 1990) negatively correlated with both therapist- and patient- rated alliance but by calculating interpersonal style in a slightly different way using the same data, Hersoug et al. (2002b) found no significant relationship.

Piper et al. (2004) found no correlation between patients' quality of object relations (QOR) and early alliance ratings but reported QOR acted as a moderator between patient-

rated alliance and therapeutic outcome in Interpretive Therapy. Patients with high QOR had better therapeutic outcomes when alliance increased across the therapeutic process whereas patients with low QOR showed greater improvements when alliance decreased.

Again, these studies are limited by having employed indirect measures of personality (i.e. through externally observable behaviours) or through having utilised diagnostic tools which rate level of pathology rather than describing personality traits. One pilot study (Coleman, 2006a) overcame this limitation by using a validated personality measure, the Trait Descriptive Adjectives (TDA; Goldberg, 1991). Coleman (2006a) reported positive correlations between alliance and four of the Big Five personality factors; agreeableness, openness, extraversion and conscientiousness.

Dyad Characteristics. By the 1960s, research had shown that matching patient-therapist dyads on personality measures could be used to enhance outcome (Carson & Heine, 1962), and that dyad similarity correlated with therapy duration (Mendelsohn & Geller, 1963), but alliance had not been simultaneously considered, and the mechanisms remained undefined.

Spinhoven et al. (2007) has since found personality organisation dissimilarity on the Inventory of Personality Organisation (IPO; Kernberg & Clarkin, 1995) and the Young Schema Questionnaire (YSQ; Young & Brown, 1994) significantly correlated with patient-rated alliance, although further research using descriptive rather than diagnostic personality tools was recommended.

Coleman (2006b) generated a similarity score for patient and therapist dyads using their TDA personality scores. Similarity positively correlated with therapeutic outcome and with female, but not male, patients' ratings of alliance.

Dyad Values. Other studies have attempted to define the critical variables not as personality specifically but in terms of values and how these relate to the individual

patient. This is useful because value measures tend not to be defined by level of psychopathology but regarding normal individual differences. Kelly (1990) conducted a meta-analysis of values and therapeutic outcome. Results suggested that initial dissimilarity of patient and therapist values may be related to improved outcomes. Later methodological revisions, however, showed that patient and psychotherapist dyads with moderately similar values, mainly using Rokeach Value Survey's (RVS; Rokeach, 1973) actually showed most improvement (Kelly & Strupp, 1992).

Hersoug et al. (2013) used the RVS in a large naturalistic study of 270 patients and 59 therapists. Data suggested value similarity correlated with patient-rated alliance at session 12 such that as dyad similarity increased, so too did alliance rating. The RVS has, however, been heavily criticised in terms of difficulties with construct validity.

Schwartz's theory of basic human values identifies ten universal values; security, power, achievement, hedonism, stimulation, self-direction, universalism, benevolence, conformity and tradition (Schwartz, 2012). The model is described around a circular structure which outlines the associated motivators and the location of compatible and conflicting values (see Figure 4). For example, power and achievement are described as compatible values whilst power and universalism conflict as they are driven by opposing motivators.

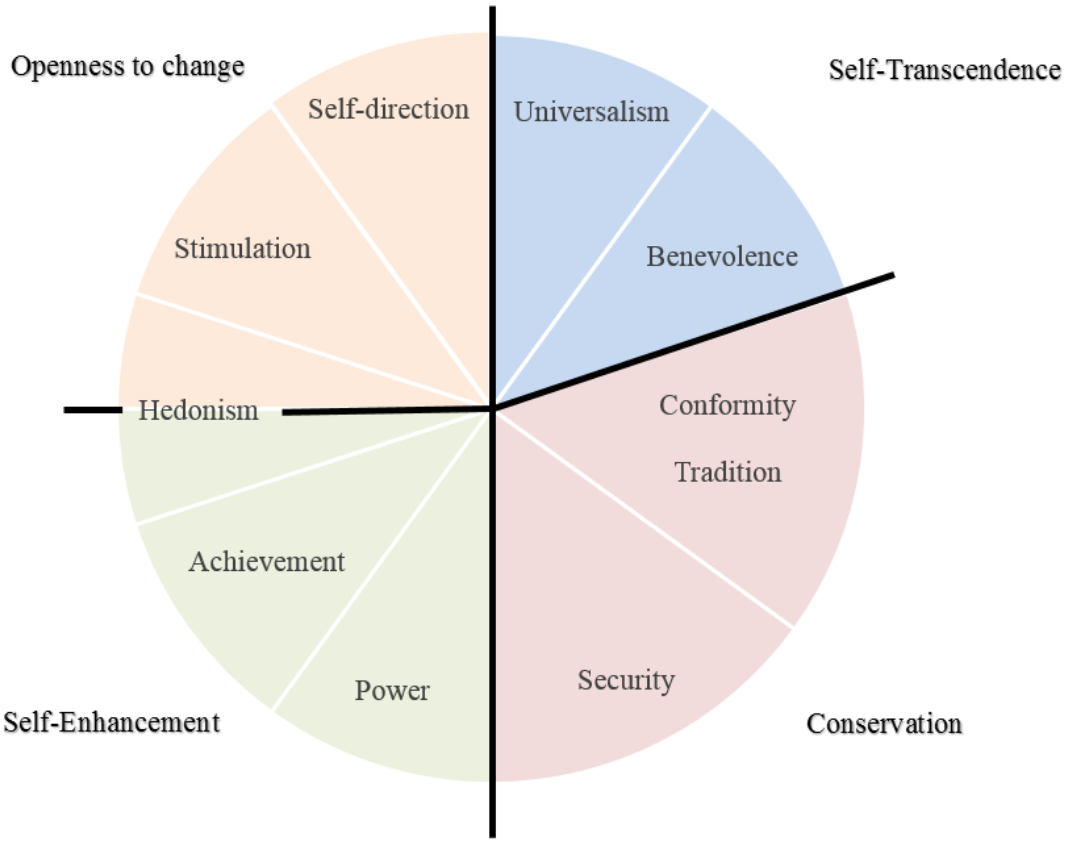


Figure 4: Theoretical model of Schwartz's theory of basic human values adapted from Schwartz (2012).

The Schwartz Values Survey (SVS; Schwartz, 2009) is a measure of personal values which purports to capture data on the ten universal value types. In line with the model, research evidence using the SVS suggests that adjacent values are positively correlated whilst opposing values are negatively correlated (Schwartz, 2012). Research conducted within 37 countries which incapsulate linguistic, cultural, demographic and socioeconomic diversity support the validity of the model (Bilsky, Janik & Schwartz, 2011; Davidov, Schmidt & Schwartz, 2008; Schwartz, 2006). With a wealth of cross cultural data and supporting statistics available, the scale is well validated and based in value theory (Schwartz, 1992). The current author was unable to find any research employing this useful tool to measure therapeutic dyad values during the formation and maintainence of alliance.

Summary. The literature is unequivocal in the claim that therapeutic alliance is an important variable affecting outcome across therapies. Despite the early interest, a 2012 pilot found preliminary data to suggest a complex relationship between therapist variables, alliance and outcome but, given the poverty of research which simultaneously considers all three variables and further methodological concerns within the pilot, recommended much further research (Zimmerman & Bambling, 2012).

It is not at all clear how a match or mismatch in therapist-patient personality constructs affects either alliance or outcome and, given the demonstrable importance of therapeutic alliance, researchers argue that more work is required to establish the relationship of these variables (Baldwin, Wampold & Imel, 2007). Kelly (1990) suggested future research should use standardised measures of values and employ outcome measures with increased specificity. Coleman's (2006a; 2006b) research supported the association between personality and alliance and suggested further research should consider a mediation analysis to compare the direct effect of personality on outcome with those mediated through alliance.

The evidence supports the relationship between therapeutic alliance and outcome, and suggests a relationship between personality values and therapeutic alliance, but does not support a coherent model of this relationship as yet.

2.1.2 Research Aims

The aim of the current study was to determine whether alliance related to outcome for a new therapy known as Radically Open Dialectical Behavioural Therapy (RO-DBT; Lynch., in press; Lynch, Hempel & Dunkley, 2015). This new therapy targets behavioural and emotional over-control, avoidance, and rigidity and it is hoped that this will significantly improve outcomes for people diagnosed with Treatment Resistant Depression (TRD; Berlim & Turecki, 2007). As part of a larger study, REFRActory depression -

Mechanisms and Efficacy of RO-DBT, (REFRAMED; Lynch et al., 2015), patients with treatment resistant or chronic depression were randomised to receive either RO-DBT or treatment as usual. All patients were asked to complete several questionnaires at baseline, including a values questionnaire, and those receiving RO-DBT were asked to provide regular alliance ratings throughout the course of treatment.

Strength of therapeutic alliance can be used to predict outcome on depression severity scores (Webb et al., 2012) and previous research has suggested that therapeutic alliance was particularly important for TRD as it had been used to predict relapse (Weck et al., 2013). The RO-DBT manual places more focus on alliance maintenance than other forms of treatment (Lynch et al., 2015). It was therefore likely that one potential mechanism for RO-DBT was therapeutic alliance.

The present study further investigated whether the degree of match between the patients' and therapists' values was related to patient-rated therapeutic alliance and/or therapeutic outcome. An aim was to investigate whether alliance mediated the relationship between values and outcome. These values included constructs such as security, power, achievement, hedonism, stimulation, self-direction, universalism, benevolence, conformity and tradition. This study aimed to provide useful information pertaining to the value of matching patients to therapists based on defined characteristics.

2.1.3 Hypotheses

Based on the literature, it was hypothesised that the relationship between degree of therapist and patient value mismatch and self-reported improvement in depression symptoms would be mediated by the level of patient-reported alliance. It was unclear whether this would be a full mediation model. It was, however, predicted that the model would include a significant negative correlation between mismatch of patient and therapist values and patient-reported therapeutic alliance and a significant positive correlation

between patient-reported therapeutic alliance and self-reported improvement in depression symptoms. The relationship of these hypotheses and the proposed mechanisms are outlined in Figure 5.

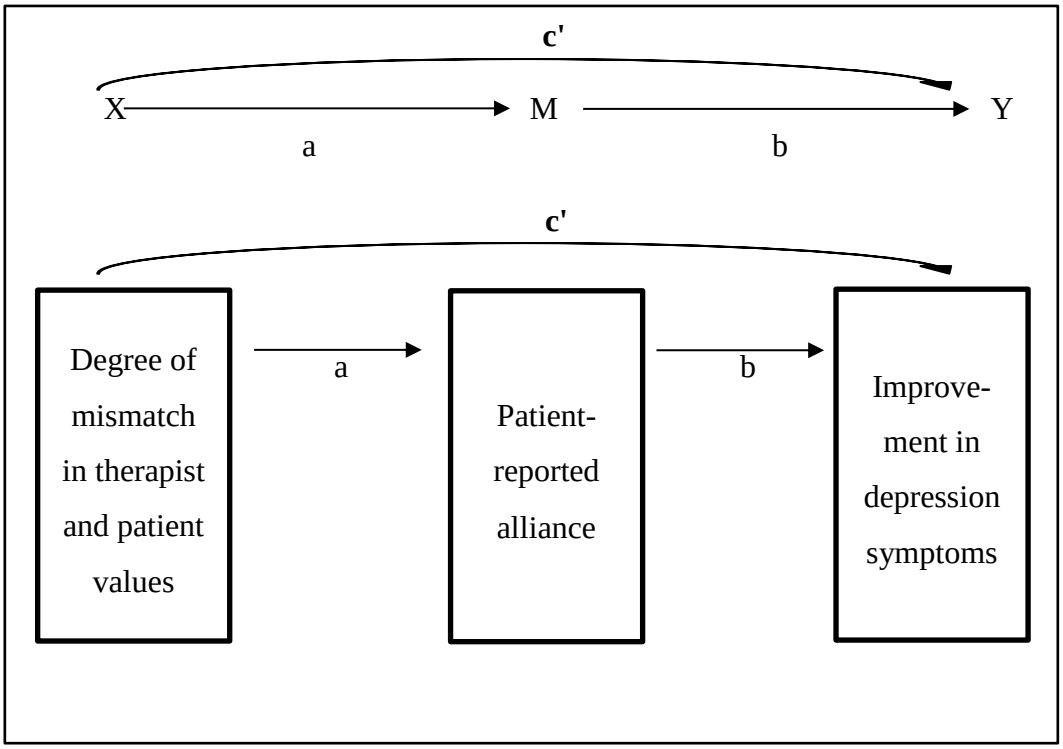


Figure 5: Proposed relationship of variables considered in the research hypotheses.

2.2 Method

2.2.1 Participants

The REFRAMED project included patients who:

- were at least 18 years of age (no upper age limit),
- scored at a diagnostic level on the SCID-I for Major Depressive Disorder (MDD),
- had a Ham-D score of at least 15,
- had TRD defined as at least two previous episodes of depression (or a current diagnosis of chronic depression) as well as having completed at least six weeks of antidepressant medication within their current episode without symptom relief,
- and may or may not have a cluster A or C personality disorder.

Patients were excluded if their IQ was below 70 or they had an insufficient level of English acquisition for completion of RO-DBT. Disorders associated with under-control (cluster B personality disorders and/or substance dependence/abuse, bipolar depression or psychosis) were also excluded as RO-DBT is designed to treat behaviours associated with over-control. Finally, those who were awaiting or receiving standard DBT were excluded.

Patients were recruited from primary and secondary NHS care. This involved searching general practice (GP) databases and consulting medical records. After initial screens for eligibility, patients were either provided with an information sheet (see Appendix A) or were telephoned in order to provide information, seek oral consent and conduct further screening. Those that provided oral consent and passed the screening measures were invited for a full diagnostic interview, and if eligible, asked to sign written consent forms (see Appendix B). It was also possible for GPs, nurses and mental health practitioners to directly refer identified patients to the REFRAMED project or for patients to self-refer.

The REFRAMED study aimed to recruit 276 patients across Dorset, Hampshire and North Wales, 153 of whom would be allocated to the RO-DBT group. For the purpose of the present study, only data from patients who were allocated to RO-DBT and completed the six month course of treatment were included. A power analysis using G*Power which employed a conservative estimation of effect size ($r = 0.25$) suggested that $N = 55$ was a sufficient sample size. It was therefore considered that the current sample ($N = 102$) was large enough for the present study.

At the end of data collection, participants were provided with a closing letter (see Appendix C).

2.2.2 Design

The REFRAMED trial was a large RCT. The current study employed a subsection of these data in a correlational design. The key independent variables were the baseline collection of the therapist and patient self-reported values and the patients' therapeutic alliance ratings after the third treatment session and again after 6 months of treatment. The independent variables (i.e. value-match and alliance) were then employed in a regression analysis with the dependent variable (change in self-reported symptom severity). It was proposed that therapeutic alliance would be a mediating variable in the relationship between the independent and dependent variables.

2.2.3 Measures

The key independent measures were standardised questionnaires which were completed by the patient and therapist separately by hand.

Schwartz Values Survey (SVS; Schwartz, 2009). This measure of personal values was completed at baseline by both patient and therapist, i.e. before the patients were randomised and the therapists had started providing treatment. The SVS required therapists and patients to respond on a nine-point likert scale in terms of the degree to which the 57 statements were 'a guiding principle' in their life (see Appendix D). The scale is well validated cross-culturally and based in value theory (Schwartz, 1992).

Participants who had 15 or more missing Schwartz Values Scale (SVS) items, who responded in the same way 35 times or more, or who had completed less than 70% of the items for a given SVS subscale were all removed from the values analysis. An overall mean SVS score was then calculated for each remaining participant (therapist and patients alike). The ten subscale scores were calculated for each participant and centred by deducting the individuals mean SVS from each subscale leaving ten centred SVS subscale means for each therapist and patient.

The degree of mismatch between the patient and therapist values scores within each dyad was then calculated. This resulted from summing the squared difference for each of the centred subscales and dividing this by the number of complete subscales to produce a mean level of match.

California Psychotherapy Alliance Scale – Patient Version (CALPAS-P). There are more than 11 different psychometric scales for measuring alliance. The CALPAS was selected as the author attempted to incorporate several conceptualisations of alliance and therefore bridge the gap between existing literatures (Marmar, Gaston, Gallagher & Thompson, 1989). The CALPAS is also said to correlate highly with earlier alliance measures (Hatcher & Barends, 1996; Price & Jones, 1998; Safran & Wallner, 1991; Tichenor & Hill, 1989). Each subscale therefore reflects a different purportedly independent conceptualisation (Gaston & Marmar, 1994). This measure of patient self-reported therapeutic alliance was completed after session three and at the end of the course of RO-DBT, i.e. the month six timepoint. It contained 24 items to be rated on a seven-point likert scale (see Appendix E). A number of the scores were reverse coded and the items were totalled before a mean calculated for each of the four dimensions of patient-rated alliance: Patient Commitment Scale, Patient Working Capacity Scale, Therapist Understanding and Involvement Scale, and Working Strategy Consensus Scale. These combine to provide an overall score which was also used in analysis. The CALPAS-P has high internal consistency with a Cronbach's alpha of .84 (Gaston, 1991) and has reportedly good stability over time (Delisgnore et al., 2014).

Patient Health Questionnaire – 9 (PHQ-9). The PHQ-9 is a measure of self-reported depression which can be applied at multiple timepoints. It is the depression module of a diagnostic tool which is a standardised measure used across the UK National Health Service (NHS) and has been validated for use in primary care (Kroenke, Spitzer &

Williams, 2001). It consists of the nine DSM-IV criteria which are listed as statements, each rated by the patient from "0" (not at all) to "3" (nearly every day) (Cameron, Crawford, Lawton & Reid, 2008). Scores are then summed to achieve an overall depression rating and results can be categorised; 5-9 mild depression, 10-14 moderate depression, 15-19 moderately severe depression and 20+ severely depressed (see Appendix F). It is a reliable and valid measure of depression severity achieving 88% sensitivity and 88% specificity for major depression where scores of ten or more indicate major depression (Kroenke, Spitzer & Williams, 2001). The change in PHQ-9 score between baseline and the six-month timepoint was used as the outcome measure for this study.

Demographics. Patient and therapist age and gender were also recorded at baseline.

2.2.4 Procedure

The RO-DBT therapy format consisted of skills groups and one-to-one sessions over the course of a 29 week period. For intellectual property reasons, the full therapeutic details cannot be included at this stage, however, the full protocol is outlined in 'Radically Open Dialectical Behavior Therapy for Disorders of Overcontrol (Lynch, *in press*) and further information can be found in Lynch et al. (2013) and Lynch, Hempel and Dunkley (2015).

All questionnaires were administered by hand and completed anonymously by each participant (therapist or patient) and either returned via the post or through the RO-DBT data submission website.

2.2.5 Ethical Approval

As the REFRAMED project was already underway through the University of Southampton in collaboration with a number of NHS trusts, the appropriate ethical approval had already been sought and granted. In order to work on a subsection of this project, the Trainee completed an NHS pre-engagement check and submitted a CV in order

to be granted approval to join the project however, as there were no amendments to the original protocol, no further NHS ethics applications were submitted. The allocated ERGO number was 12319 (see Appendix G). Questionnaires were anonymised using participant numbers and the data input into a central database.

2.2.6 Demographic Analysis

There were 11 instances where the therapist changed during the course of the month six treatment period. Data for these participants was not included in any analyses due to difficulty computing a degree of match score where there were three people within the therapeutic relationship and also because of the unknown way in which therapist changes might influence alliance. The data from 102 patients were used for the analysis. Within the dyads, 67% of the patients were female (N = 34 male; 68 female). For four patients, the therapists had yet to submit the data pertaining to who they had treated and therefore these data were not used in the full analysis. Each therapist saw more than one patient and a total of 19 therapists contributed data, of which 18 were female (95%). Therapists were aged 33-61 (M = 48.26, SD = 8.21) and patients were aged 20-71 (M = 47.39, SD = 11.69).

2.2.6.1 Demographic matching. The match or mismatch of gender was dummy coded within the dataset. Similarly, where the therapist and patients ages were within ten years of each other this was coded as a match. This allowed analysis as to whether match or mismatch on either gender or age was related to patient-rated alliance.

All tests were two-tailed and tested at the $\alpha = .05$ level. The Levene's tests for equality of variance for age match were 0.92 and 0.93 for the week three and month six CALPAS-P timepoints respectively, therefore the variance was assumed equal and independent sample t-tests were conducted. There was no statistical difference in overall alliance between the dyads that matched (M = 140.04, SD = 17.93) on age and those that did not (M = 143.06, SD = 17.09) at the week three timepoint; $t(96) = 0.85$, $p = .96$. The

lack of difference in alliance rating was also found between the age matched (M = 151.06, SD = 13.324) and mismatched (M = 151.59, SD = 14.705) groups at the month six timepoint; $t(63) = 0.15$, $p = .88$.

The Levene's tests for gender match and total alliance were significant for both timepoints therefore the variance was not assumed equal for the independent sample t-tests. There was no statistical difference in overall alliance between the dyads that matched (M = 140.88, SD = 19.92) on gender and those that did not (M = 142.91, SD = 11.74) at the week three timepoint; $t(95) = .636$, $p = .526$. The difference between the matched (M = 149.31, SD = 16.582) and mismatched (M = 155.04, SD = 5.66) gender groups at the month six timepoint just reached a significant level; $t(56) = 2.035$, $p = .047$.

Given the lack of significant results, the age and gender match variables were not explored further.

2.2.7 Statistical Analysis

PROCESS (Hayes, 2013) was used to analyse whether patient-rated alliance (CALPAS-P) mediated the degree of mismatch between the patients' and therapists' values (SVS) on the change in depression symptoms over time (PHQ-9) at either week three or month six, for the dyads with complete data. This form of mediation analysis was employed with the aim of contributing to explanatory theory or suggesting a method of influence of the independent variable on the outcome (Frazier, Tix & Barron, 2004).

2.3 Results

2.3.1 Descriptive Statistics

There were N = 84 complete sets of baseline and month six PHQ-9 data. The latter was subtracted from the former in order to calculate change in symptom severity over time. Histograms for the baseline, month six, and change over time scores on the PHQ-9 indicated that these variables had normal distributions.

The larger the PHQ-9 change score, the greater the reduction in symptoms: negative scores indicate worsening over time. The change in the PHQ-9 varied between -9 and 20 with $M = 6.12$, $SD = 6.35$. Table 5 shows that the mean symptom severity decreased between baseline and the month six timepoint.

Table 5.

Descriptive statistics for the PHQ-9 Outcome Measure

Timepoint	*N*	Range	Mean (*SD*)
Baseline	96	7-27	19.01 (5.09)
Month six	85	1-27	12.52 (7.09)

The total alliance and four alliance subscale scores were calculated for the week three and month six timepoints (see Table 6). Patient-rated alliance increased in all subscales from the week three to the month six timepoint. The overall alliance significantly increased from week 3 ($M = 141.51$, $SD = 17.39$) to 6 months ($M = 151.09$, $SD = 13.99$); $t(65) = -3.80$, $p < .001$). Histograms showed a normal distribution for each timepoint.

Table 6.

Descriptive Statistics for the Patient-Rated Alliance on the CALPAS-P at Week Three and Month Six

	N	Median *(IQR)*	Mean (*SD*)
Week 3			
Patient Commitment subscale	102	36.00 (32.75-40.00)	35.11 (5.95)
Patient Working Capacity subscale	102	32.00 (28.00-35.25)	31.65 (5.14)
Therapist Understanding and Involvement subscale	102	39.00 (36.00-41.00)	37.87 (4.04)
Working Strategy Consensus subscale	102	39.00 (35.00-41.00)	36.88 (5.33)
Total Alliance	102	145.50 (131.00-154.25)	141.51 (17.39)
Month 6			
Patient Commitment subscale	66	39.00 (35.00-41.00)	37.61 (4.61)
Patient Working Capacity subscale	66	35.00 (31.00-38.00)	34.58 (4.70)
Therapist Understanding and Involvement subscale	66	41.00 (40.00-42.00)	40.20 (3.07)
Working Strategy Consensus subscale	66	40.00 (38.00-42.00)	38.71 (4.66)
Total Alliance	66	153.00 (146.75-162.00)	151.09 (13.99)

Histograms showed the mean SVS mismatch scores were also normally distributed. The bivariate distribution of these variables were plotted in scatterplots and showed no curvilinear relationships therefore the parametric assumptions were fulfilled. There were no significant outliers.

Figure 6 shows the mean centred values for each of the SVS subscales as rated by the patients and therapists at baseline on the SVS.

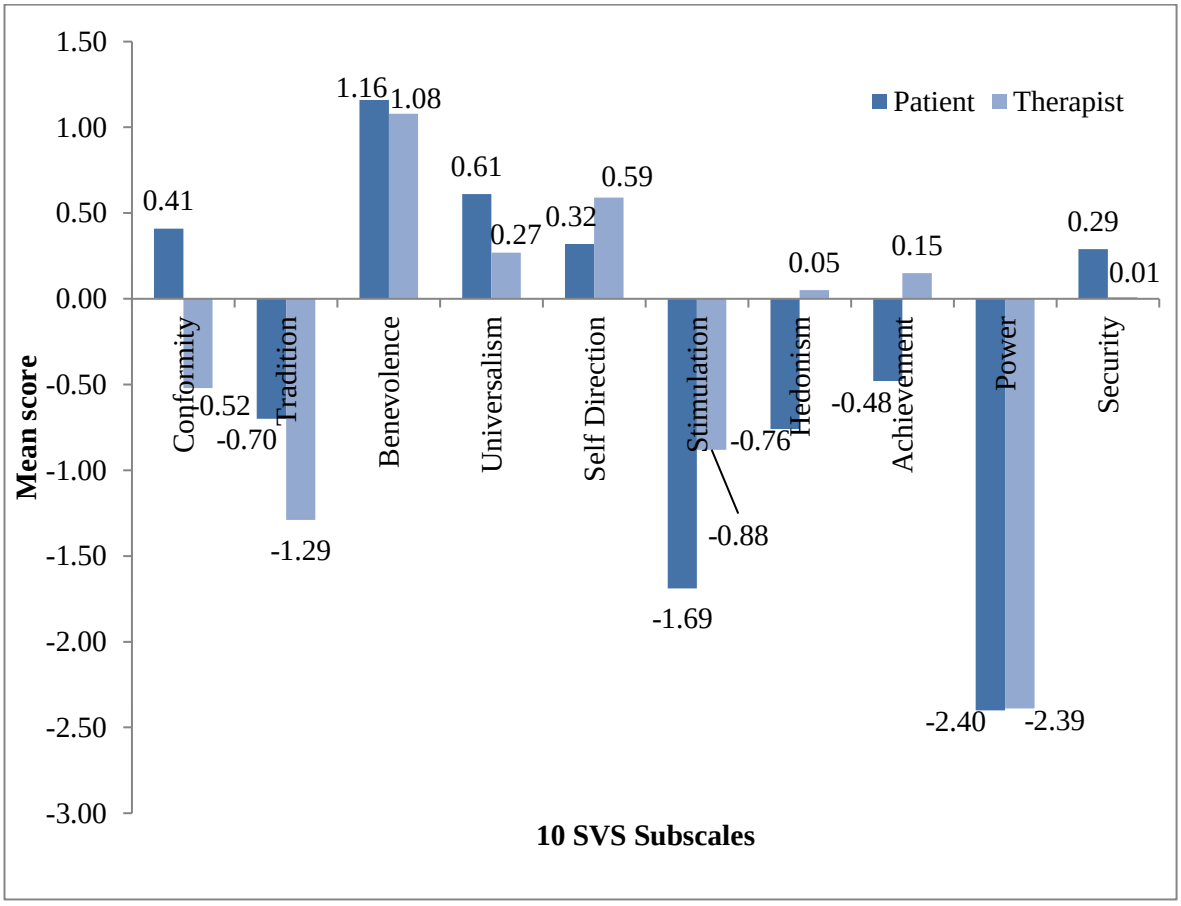


Figure 6: The mean SVS value subscale scores for the patients and therapists at baseline.

The degree of mismatch between the patient and therapist values was analysed for 87 dyads. This ranged from 0.16 to 10.77 with M = 2.30 (SD = 1.55), where a higher score indicated a greater mis-match. Table 7 shows the mean squared difference between the therapist and patients on each of the ten values subscales in ranked order of the mean size of the difference, from least similar to most.

Table 7.

Mean and Standard Deviation Scores for the Therapist and Patient SVS Subscales at baseline

Subscale	Patient scores Mean (*SD*)	Therapist scores Mean (*SD*)	Mean squared difference (*SD*)
Stimulation	-1.69 (1.41)	-0.88 (1.38)	5.66 (6.75)
Hedonism	-0.76 (1.25)	0.05 (1.05)	3.58 (4.92)
Tradition	-0.70 (0.92)	-1.29 (1.23)	2.80 (3.56)
Conformity	0.41 (0.95)	0.52 (0.90)	2.44 (2.87)
Power	-2.40 (1.10)	-2.39 (1.18)	2.44 (4.44)
Achievement	-0.48 (0.95)	0.15 (0.83)	1.90 (2.37)
Universalism	0.61 (0.75)	0.27 (0.85)	1.32 (1.20)
Security	0.29 (0.93)	0.01 (0.59)	1.10 (1.20)
Benevolence	1.16 (0.69)	1.08 (0.79)	0.99 (1.20)
Self direction	0.32 (0.78)	0.59 (0.66)	0.89 (1.32)

2.3.2 Mediation Analyses

2.3.2.1 The relationship between value match and early alliance. Early alliance was analysed via the week three timepoint (N = 75) but there were no significant relationships between the independent, dependent and mediator variables.

IV to Mediator. An analysis of the week three data showed no significant relationship (r = 0.19, R^2 = .04) between mean value mismatch and week three alliance rating; F (2, 73) = 2.72, p = .10, b = -1.93, 95% CI -4.26, 0.40.

Direct path. There was no significant relationship (r = 0.16, R^2 = .03) for the direct path of value mismatch plus week three alliance rating on change in symptoms; F (2, 72) = 0.93, p = .40.

Indirect path. Figure 7 shows that mean value mismatch did not significantly indirectly effect symptom reduction through the week three alliance rating; F (1, 73) < .01, p = .99, b = -0.12, bootstrapped SE = 0.17, CI [-0.62, 0.10], standardised B = -0.03.

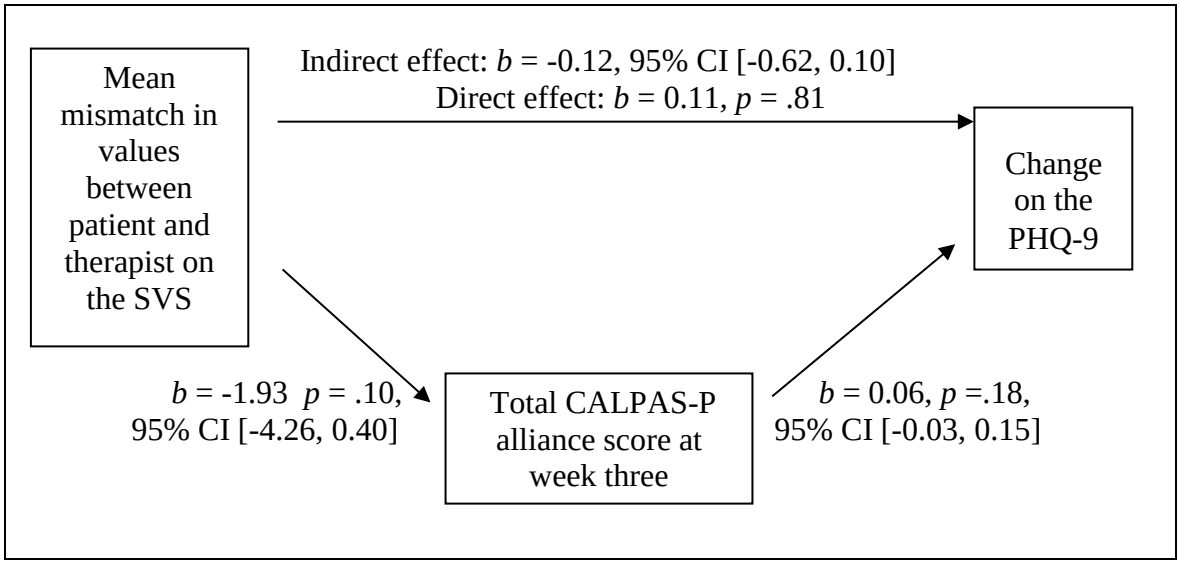


Figure 7: Representation of the statistical relationships between value mismatch (independent variable), alliance (mediator) and symptom change (dependent variable) at the week three timepoint.

The data showed that the total week three alliance rating did not mediate the relationship between therapist and patient value mis-match and symptom change over time because early alliance did not predict outcome. No significant relationship was detected between any of the three variables at this early timepoint.

2.3.2.2 The relationship between value match and later alliance. The data for the month six timepoint were used to analyse alliance later in the therapeutic process (N = 55).

IV to Mediator. A Pearson correlation (r = -0.29) showed a medium-sized, negative correlation between the patient and therapist values mis-match score and patient-rated alliance at month six which accounted for 8% of the variance (R^2 = .08) in scores, i.e. as the mis-match score increased, the alliance score decreased. The PROCESS analysis showed this was statistically significant; $F(1, 53) = 4.80$, p = .03, t = -2.19, p = .02, 95% CI [-3.92, -0.17], b = -2.05.

Direct path. Predictors of the change in symptom severity (PHQ-9) were then considered together for the 6 month timepoint, including contributions from the degree of value mismatch (independent variable) and total alliance rating (potential mediator), i.e.

the direct path. A Pearson's correlation (r = 0.36) showed a medium-sized correlation which accounted for 13% of the PHQ-9 change variance (R^2 = .13). This was significant; $F(2, 52) = 3.94$, p = .03. Alliance (t = 2.78, p = .01, b = .18, 95% CI [0.05, 0.31]) but not value mis-match (t = 0.40, p = .62, b = .18, 95% CI [-0.74, 1.10]) significantly contributed to this pathway.

The direct path without the contribution of the mediator was then analysed, i.e. value mismatch to PHQ-9 change (r = 0.05). This was a medium-sized, positive correlation but accounted for less than 1% of variance in PHQ-9 improvement (R^2 < .001). The PROCESS analysis showed this was not statistically significant; $F(1, 53) = 0.16$, p = .69, t = -0.40, p = .69, 95% CI [-1.12, 0.75]. The effect size was b = -0.18.

Indirect path. Figure 7 shows that level of value mis-match did not significantly indirectly effect the change in symptom severity through patient-rated alliance at month six (b = -0.41, bootstrapped SE = .31, CI [-1.00, 0.20], standardised B = -.12). This was however a medium-large effect size (K^2 = .11, 95% BCa CI [0.02, 0.32]). Thus, as the value mis-match score increased, the alliance rating decreased and symptoms improved less. However, values did not directly affect outcome (see Figure 8).

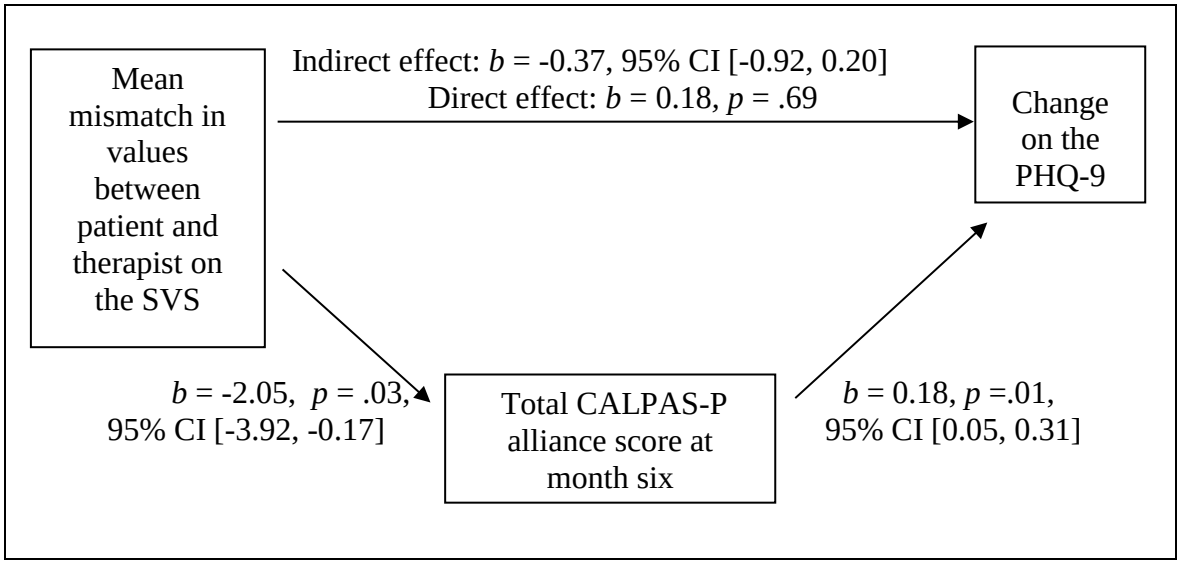


Figure 8: Representation of the statistical relationships between value mismatch (independent variable), alliance (mediator) and symptom change (dependent variable) at the month six timepoint.

The month six timepoint therefore showed a significant pathway from value mismatch to alliance rating and then to change in symptom severity, however, there was no mediation and the relationships were independent.

Features of alliance. Linear regression analyses were then conducted with the four alliance subscales from the month six CALPAS-P data. A stepwise analysis with standard entry (Brace, Kemp & Snelgar, 2006) was conducted because the analysis was exploratory (Field, 2013). The aim was to consider whether any particular features of alliance explained a greater proportion of the associated variables; mean value mismatch and symptom change.

Using the enter method, a significant model emerged for the alliance subscales and mean value mismatch: $F(4, 54) = 5.72$, $p = .001$. This model explains 24.6% of variance in the mean value mismatch score (Adjusted $R^2 = .246$). Table 8 gives information for the four predictor alliance subscales entered into the model.

Table 8.

Contribution of the alliance subscales at the month six timepoint to variance in the mean mismatch of values.

CALPAS-P Subscale	*B*	*SE B*	*β*	*p*
Patient Commitment	-0.06	0.05	-0.15	.26
Patient Working Capacity	0.10	0.06	0.24	.09
Therapist Understanding and Involvement	-0.51	0.12	-0.86	<.001
Working Strategy Consensus	0.23	0.10	0.49	.02

Although these posthoc analyses were based on a small sample (N = 59) and only preliminary, Table 8 shows that the month six CALPAS-P Patient Commitment and Patient Working Capacity subscales were not significant predictors. On the other hand, Therapist Understanding and Involvement and Working Strategy Consensus were significant predictors of the mean mis-match between patient and therapist values.

A significant model was also shown for the alliance subscales and symptom change over time: $F(4, 56) = 4.21$, $p = .005$. This model explains 23.1% of variance in the mean value mismatch score (Adjusted $R^2 = .231$). Table 9 gives information for the four predictor alliance subscales entered.

Table 9.

Contribution of the alliance subscales at the month six timepoint to variance in symptom change.

CALPAS-P Subscale	*B*	*SE B*	*β*	*p*
Patient Commitment	0.57	0.21	0.42	0.01
Patient Working Capacity	0.07	0.18	0.05	0.72
Therapist Understanding and Involvement	-0.26	0.46	-0.12	0.58
Working Strategy Consensus	0.23	0.33	0.15	0.49

Again, the analyses were based on a small sample (N = 61) and exploratory however, Table 9 shows that only two of the alliance subscales, Patient Commitment and Working Strategy Consensus, were significant predictors of outcome in this dataset.

Figure 9 represents the significant relationships found within the month six timepoint dataset within a model. Caution when interpreting these preliminary pilot findings is advised and causation can not be assumed.

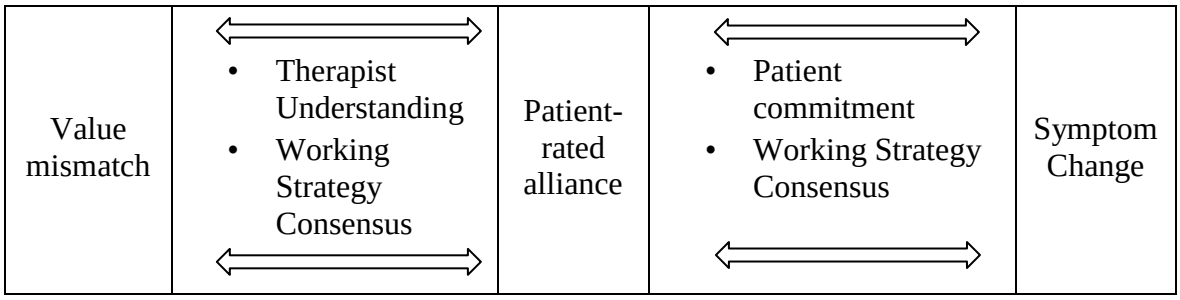


Figure 9: Model representing the significant relationships found within the month six timepoint dataset.

2.4 Discussion

2.4.1 Key Findings

The hypothesis that there would be a mediation effect of alliance on value mismatch and outcome was not supported at the early alliance timepoint. There was, however, a significant correlation between value mismatch and alliance, and between alliance and outcome, at the later timepoint. Evidence was provided, therefore, of an indirect pathway in the direction predicted. It is recognised that this approach to mediation testing has low statistical power (MacKinnon, Lockwood, Hoffman, West & Sheets, 2002). Although the hypothesis pertaining to a mediation effect was not fully supported by the month six timepoint analyses, an indirect pathway with correlations in the direction predicted were shown.

Spinhoven et al. (2007) reported personality organisation dissimilarity on the IPO and YSQ significantly correlated with patient-rated alliance. As the therapist-patient

dissimilarity increased, the alliance rating also increased. The current study found the opposite relationship. It is thought that Spinhoven et al.'s (2007) finding was an artefact caused by using a diagnostic measure which quantifies dysfunction; therefore increasing dissimilarity either means the therapist is providing more adaptive responses or the patient is showing greater dysfunction. The current study used a descriptive tool such that greater similarity indicated that the patient and therapist were more akin in the principles that guided their life.

The current research also contradicts early suggestions that initial dissimilarity in values would be related to improved outcomes (Kelly, 1990). Differences may, however, be due to the different timepoints and measures employed.

The findings were in line with Hersoug et al. (2001), who reported no relationship between value similarity and alliance at session 3, but a positive correlation at session 12. Early suggestions that alliance and outcome were associated with therapist and patient personality constructs have also been supported by these data (Carson & Heine, 1962; Mendelsohn & Geller, 1963).

It also supports Coleman (2006b) who reported similarity on the TDA correlated with alliance but not his finding that this relationship was only true for female patients. Although the current study did not find differences in alliance or values based on demographic variables, gender was not included as a covariate. This is in line with Vocisano et al.'s (2004) large scale clinical trial of talking therapies which found no relationship between outcome and therapist demographics such as gender, age and years of experience. Further research may, however, consider using a larger sample size which supports models that include demographic factors as covariables.

The current study showed no significant relationships between value mismatch, alliance and outcome at the week three timepoint in the current study. Some researchers

argue that therapeutic alliance is particularly emphasised during early sessions of DBT as the patients learns about the intervention and a set of shared goals are developed whilst the patient-therapist dyad are getting to know one another (Bedics, Atkins, Comtois & Linehan, 2012; Rizvi, 2011). However, the current study suggests that alliance may not be fully formed by the third session, perhaps because those sessions in RO-DBT are more dedicated to setting up expectations and understanding around a long-term intensive intervention (Lynch, in press).

The current study found no correlation between dyad dissimilarity and alliance at the week three timepoint but a medium-sized, negative correlation at month six ($r = 0.36$). This correlation was larger than Hersoug et al. (2013) found at 12 weeks ($r = 0.18$) and that Coleman (2006b) reported in female patients ($r = 0.23$). It may be that quantity of therapeutic sessions influences the relationship between dyad similarity and alliance. Unfortunately, Coleman (2006b) did not report the timepoint that he measured alliance and, as this is a preliminary finding, further research would be required to investigate this hypothesis.

Finally, further analysis of the alliance data showed that two of the four alliance subscales contributed to each part of the relationship; therapist understanding/involvement and working strategy consense was significant in the relationship between value mismatch and patient-rated alliance, whilst patient commitment and working strategy consensus was significant in the relationship between patient-rated alliance and symptom change. No previous studies have analysed the components of alliance in this way but it stands to reason that patient working capacity is less influenced by value match than therapist understanding or working strategy consensus. Further research will be required in order to interpret these results.

A model is proposed to outline the relationship between subscale variables, however, caution is advised when interpreting these preliminary, correlational pilot findings.

2.4.2 Study Strengths and Limitations

Whilst the study benefited from longitudinal outcome and alliance data, there were fewer alliance ratings at the month six (N = 55) than week three (N = 75) timepoint. The drop out rate and limited sample size may have restricted statistical findings.

It was valuable to collect and consider the impact of demographics even though they did not appear to influence findings. The study included patients who had received varied diagnoses and included a number trial sites, which increased generalisability.

The study relied on self-report questionnaire data which contributed to the sample size because it was quick and easy to administer and participants were able to submit potentially controversial or sensitive alliance responses confidentially. Whilst this was beneficial, and important regarding the aim of looking directly at non-pathological personality constructs in order to consider therapist and patient match, all self-report measures have clear limitations. For example, social desirability and self-selection response biases cannot be ruled out. Further, the full RERAMED protocol hypothesised that patients with emotionally-constricted depression would be likely to misreport disagreement, e.g. poor alliance (Lynch et al., 2015). It is unclear how this question may have influenced the current findings.

Ideally, future studies would include multiple measures of personality from a range of perspectives however this makes computation of a degree of match in the dyad rather complex.

The current study employed the CALPAS-P to provide alliance data. This was beneficial as it provided subscale data and a transtheoretical approach. The tool is readily applied and analysed but is under-utilised within the field where the WAI measures are the

norm. Consequently, these findings provide unique and useful data but are difficult to situate within the alliance literature.

Similarly, most research to date has been conducted within a psychodynamic therapeutic setting. The current paper provides support for the relationship between personality, alliance and outcome within the newly established RO-DBT and suggests the relationships within this setting may be similar. As the first study of this type, however, caution is advised and replications required.

2.4.3 Implications

This pilot analysis may inform understanding of some of the underlying mechanisms of RO-DBT. This analysis has also supported the assumption that, like other psychotherapies, alliance is related to outcome in RO-DBT.

Although formative, the research suggests that clinical knowledge regarding therapist-patient match could prove useful regarding therapeutic alliance and/or outcome. Further research is recommended before findings can be adopted clinically however results have the potential to influence the training of therapists, employment strategies, and patient allocation. For example, measures of therapist personality could provide managers with the knowledge to develop an effective profile within the team. Further, benefit may be conferred by utilising patient personality measures before allocation to a specific therapist. Further research may suggest whether such strategies could conceivably improve therapeutic outcomes and provide the most effective therapy within budget.

Coleman (2006b) also suggested personality matching may prove useful to reduce premature termination of therapy, which in turn may improve therapeutic outcomes. Alongside ethical responsibility, as budgets tighten it will become increasingly important for Clinical Psychology to provide the most cost-effective therapy and research into mediators facilitates this.

2.4.4 Future Research

Future research may consider which of the various personality constructs influence patients- versus therapists- ratings of alliance in different ways (Chapman et al., 2009). For example, overall value similarity (or a specific values' similarity) may prove to be related to patients' alliance ratings. On the other hand, interpersonal style could be more important for therapist-ratings.

Further work should continue to compare pre-therapy personality measures with longitudinal measures of alliance as this body of literature is still slight. Advances to the literature would include a greater range of self-report measures and concurrent use of externally rated tools.

There has been suggestion that personality disorder subtype may be related to speed of alliance development and/or the ability to make character adaptations over the course of the alliance/therapy (Alder, 1980). The current study included patients with a personality disorder diagnosis even though the literature is fairly unanimous that problems can arise during the development of therapeutic rapport as a consequence of the association between this type of disorder and interpersonal relationship difficulties (Bender, 2005). Consequently, it may be prudent for future research to also investigate the potential impact of this variable in the relationship between alliance and values.

Appendices

Appendix A: Participant Information Sheet

REFRAMED: REFRActory depression - Mechanisms and Efficacy of Radically Open Dialectical Behaviour Therapy

Patient Information Sheet

We would like to invite you to take part in a research study. Before you decide you need to understand why the research is being done and what it would involve for you. Please take time to read the following information carefully. Feel free to discuss the study with your family or friends. Please ask us if there is anything that is not clear or if you would like more information.

What is the purpose of the study?

Depression is a common mental health problem that is often treated with antidepressant medication. Unfortunately, some people continue to feel depressed even though they have taken antidepressants for 6 weeks or more. This problem is far more common than often realised. Doctors are not certain about the best way to treat these patients. There is some evidence to suggest that certain types of 'talking therapy' may be helpful. You may have heard of Cognitive Behavioural Therapy (CBT), for example. However, every person is different and CBT does not work for everyone. This may be because of a certain way of thinking or behaving that a person may not even be aware of that is stopping them from getting better. Recently, a relatively new type of therapy has been developed, called Radically Open Dialectical Behaviour Therapy (RO-DBT); an adaptation of standard DBT for refractory depression.

This study is being set up to try to discover if RO-DBT might help to improve depression, by reducing symptoms. We need to compare two different ways of treating depression by carrying out what is called a randomised controlled trial. We will compare standard treatment you usually receive on the NHS (including antidepressant medication, case management, and other types of behaviour therapy) with RO-DBT and we want to do this trial over a period of at least 12 months, and where possible 18 months. In order to take part in this study, certain symptoms must be present. If you are suitable and you would like to take part in the trial, we will ask you to sign a consent form. If we don't think you are suitable we will explain why. We are hoping to include 276 people in this study.

What is Radically Open Dialectical Behaviour Therapy?

RO-DBT is a type of talking therapy that involves weekly individual and group sessions. The duration of the therapy is ~29 weeks. RO-DBT is based on the idea that the way people think and behave affects how they feel and uses new brain science to help make this happen. During RO-DBT sessions, the patient and therapist discuss difficulties the patient is experiencing and how their coping habits might affect the problem yet also strives to acknowledge the self-sacrifices patients have made to deal with their problems. The patient and therapist then work together to find ways of helping the person cope with their depression that includes novel ways to activate social-safety during interactions with others. You will have received another leaflet ("Dialectical Behaviour Therapy for

Treatment Resistant Depression") explaining more about RO-DBT for you to read.

Why have I been chosen?

You were recently contacted by one of our research staff and asked several questions about your use of antidepressant medication and depression symptoms. Based on the answers that you gave, you may be eligible to take part in this study.

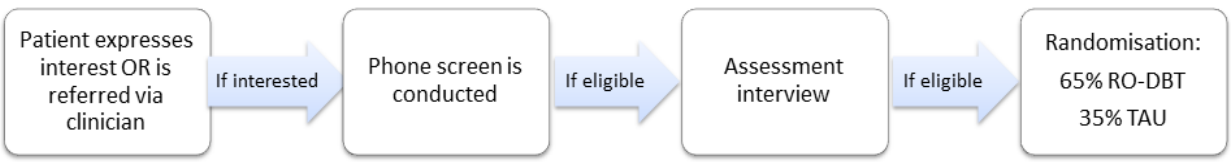
Do I have to take part?

No, you do not have to take part in this study. If you have agreed to attend the appointment with the researcher, this will not commit you to taking part in the study. Similarly, if you complete the questionnaires during the appointment, this does not mean you are committed to taking part in the study. We hope that as many people as possible will take part, but it is up to you to decide whether or not to take part. If you decide to take part you are still free to withdraw at any time, without giving a reason. A decision to withdraw at any time, or a decision not to take part, will not affect the standard of care you receive. If you withdraw from the study, we will need to use the data collected up to your withdrawal.

If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent-form which you can also keep. The consent form simply gives us permission to look at some parts of your medical records, gather and store information and sets out how we plan to go about running the research project. If you decide to take part you are still free to withdraw at any time and without giving a reason. The study therapist may also withdraw you from the study if they feel it would be in your best interests.

Will I be in the RO-DBT treatment group or the group continuing to take antidepressant drugs? How is this decided?

After you have attended the first interview and completed a set of questionnaires (it is important to do this within one week after the interview), you will be randomly allocated to one of two treatment groups: either RO-DBT in addition to usual care, which includes antidepressants, or to usual care, including antidepressants. The groups are selected randomly – that is, by chance. Overall, you have a 65% chance of being in the RO-DBT group and a 35% chance of being in the group continuing with the care you were already receiving or that's generally available via the NHS or private care, called the 'standard care' group. We would like more people to be in the RO-DBT group so that we can get a better understanding of *how* RO-DBT works.



The person that will be doing the research interviews with you will not know which group

you have been assigned to and it is important that you try not to tell them. However, your GP or psychological therapist will know which group you are in, so that they can provide you with the best care possible.

Regardless of which group you are randomly selected for, we would like to point out that being part of this study means you will be receiving better care and closer monitoring of your well-being than someone who is not taking part. It is important for us to be able to compare the RO-DBT treatment to the treatment patients usually receive in the NHS, so by taking part in this study you will be helping us with understanding the effectiveness and mechanisms of this treatment regardless of the group you have been allocated to. We hope that this treatment will become more widely available after this study, so that more people can benefit from it in the future.

What does taking part in the study, either in the RO-DBT group or Standard care group involve?

***RO-DBT + Standard Care*:** If you are in this group, you will be invited to take part in a RO-DBT programme run by a trained and closely supervised therapist. The duration of the therapy is ~29 weeks. The RO-DBT treatment involves a 1 hour weekly individual session and a 2.5-hour weekly group session. As part of this process, you may be asked to think about some of the issues discussed between sessions and you are asked to keep a diary. With your permission, these sessions will be video-recorded, mainly to make sure that the therapists are being consistent with their approaches. We may also want to use the videotapes to tell people about this form of therapy in the future. This would normally be people wishing to learn how to work as RO-DBT therapists. If you do not want the videos to be used for this purpose, then that is fine. As with all our tapes, the video tapes will be stored in a locked cabinet at the University of Southampton.

While you are taking part in the RO-DBT therapy sessions, you are encouraged to continue your antidepressant medication if you were prescribed any by your GP or psychiatrist. However, we would like to ask you not to follow any additional psychotherapy since this may interfere with the RO-DBT treatment and this will make it more difficult for us to compare the effect of RO-DBT to standard care.

***Standard Care*:** If you are in this group, you will continue to receive the care you were already receiving (including antidepressant medication) in the way you and your GP decide is appropriate. Antidepressant medication is currently the recommended treatment for people who suffer from depression. However, taking part in this study does not mean you would have to continue to take your medication. If you and your GP decided it was the right time for you to stop, we would support that decision. We will ask you every 6 months how you are getting on. We will also not discourage you from seeking other types of treatment, such as psychotherapy.

What else will I be expected to do?

Regardless of what group you will be allocated to, we will ask you to attend an interview every 6 months, to complete a questionnaire every month, and to respond to automated

telephone messages every week during the first 6 months. Figure 1 shows when the assessments take place and how long they are expected to take.

Due to funding and time constraints, participants who have entered the study before the 1st of August 2014 will be asked to attend a month 18 follow-up interview and questionnaires. Participants who are recruited after the 1st of August 2014 will be asked to attend a month 12 follow-up interview and questionnaires, and to give us permission to contact them should we be able to secure funding for another interview and questionnaires 18 months after they have entered the study.

Interviews: Everyone who takes part in this research will talk to a researcher a total of 3 or 4 times: once when we first meet you and then at the follow-up meetings 7 and 12months later, and where possible 18 months later. These meetings are all extra from those you would normally have for the management of your depression.

Questionnaires: In between these meetings, you will be asked to complete several questionnaires on a monthly basis during the first year, and if possible again after 18 months. We will send you paper versions accompanied by pre-paid envelopes so there will be no cost to you for posting them back to us.

"The questionnaires are quite straight forward. I normally do them straight away and send them off the next day. I would like to see the results if possible. Had a

Phone messages: After you have attended the first interview, we will ask you to do a simple homework assignment during 1 week, and we will send you an automated phone message every day to ask how you've been getting on. This will only take 1-2 minutes per day, and we will only send these messages on weekdays around 6pm to your mobile phone or landline, whichever you prefer. After you have been allocated to a study group, you will receive an automated phone call once every week during the first six months asking you about your mood. Each call will last about 5-10 minutes and will be scheduled every Friday between 6pm and 8pm. If you are unable to take the call at that specific moment, we may try again but don't worry if you are unable to answer the phone that day.

What are the possible disadvantages and risks of taking part?

This is a randomised controlled trial therefore you cannot choose which group you wish to join. Group allocations will be determined by chance. If, as part of the study, we become aware of a medical condition that may affect your health we will discuss a way of managing this.

Your health, welfare and wellbeing are the first priority for all the members of the research team and we will do our very best to minimise any disadvantages and risks. Taking part in this research will involve you taking some time to complete the questionnaires and discuss with the researchers how you are doing. These questionnaires are about you and some of the questions are personal; sometimes people can find it upsetting to discuss these issues. You don't have to discuss anything you don't want to and the research team members are trained to make sure that they are sensitive to your feelings and concerns. The researcher will be able to offer support during the appointment if you are upset, but would also contact the doctors or care workers who normally provide care for you, if

further support was necessary. This would be done only after discussion with you.

If you are in the RO-DBT group you will have to agree to attend the individual and group meetings and practice the new skills you will learn at home. Taking part in the RO-DBT group does involve time, effort and commitment but, having said that, this is all aimed to benefit you and help you feel better.

There are no unforeseen risks associated with taking part in the study. If you have any concerns around taking part in this study, we think it is important that we talk about them when we first meet.

What are the possible benefits of taking part?

We hope that either the antidepressant drug or RO-DBT treatments will help you by relieving you from your depression or decrease your depression symptoms significantly. However, we cannot guarantee that these treatments will help you. The information we get from this study may help us to treat future people with depression better. We will keep an eye on everyone in the study to see how they are doing. If anyone shows signs of their symptoms getting worse we will help ensure they have access to appropriate help.

We will also compensate you for your time and effort while taking part in this study, provided you complete all assessments. Figure 1 shows how much this will be. If you are in the RO-DBT group, we will randomise you to either receiving your reimbursement directly from your therapist, or via a bank transfer. Please note that the reimbursement is for the research part of the study, and NOT for the therapy part. You will continue to receive reimbursements if you decide not to take part in the therapy but continue to complete your assessments.

State Benefits: please be aware that state benefits may be affected if you receive payment for involvement in studies. We strongly encourage people who are receiving state benefits to get advice from their local Citizens Advice Bureau before agreeing any payments.

What happens when the research study stops?

After the study is complete we hope that your depression will have improved. If not, your GP will continue to manage your treatment. Unfortunately, it will not be possible for us to offer everyone RO-DBT at the end of the study. Your GP may be able to refer you to psychotherapy as part of your normal care.

After the 12 or 18 months, we will not ask you for any more information for this study. However, new projects on depression may be planned in the future, which you may be able to help with. Therefore, you will be asked whether you are willing for us to contact you by letter or telephone to inform you of new projects on depression. If are happy to be contacted in the future but have moved, we would use your details, including your NHS number, to obtain your new address via the NHS Central register.

What if new information becomes available?

Sometimes during the course of a research study, new information becomes available about the treatment that is being studied. If this happens, we will tell you about it and discuss with you whether you want to continue in the study. If you decide to withdraw, we will make arrangements for your care to continue. If you decide to continue in the study, you will be asked to sign an updated consent form. On receiving new information, we might consider it to be in your best interests to withdraw you from the study. If this happens, we will explain the reasons and arrange for your care to continue.

What if something goes wrong?

If you are experiencing problems or you feel that something is going wrong please bring it to our attention immediately. We will do our very best to deal with the issue properly. You can talk to your RO-DBT therapist if you are in the RO-DBT group and whichever group you are in you can always contact me, Thomas Lynch, the study's Chief Investigator. If you wish to complain about any aspect of the research team's work you can also raise this with me or our Trial Manager, Roelie Hempel (contact details below). If you wish to speak to someone independent of the study team, please contact the Research Governance Office of the University of Southampton via Rgoinfo@soton.ac.uk or by calling 023 8059 5058.

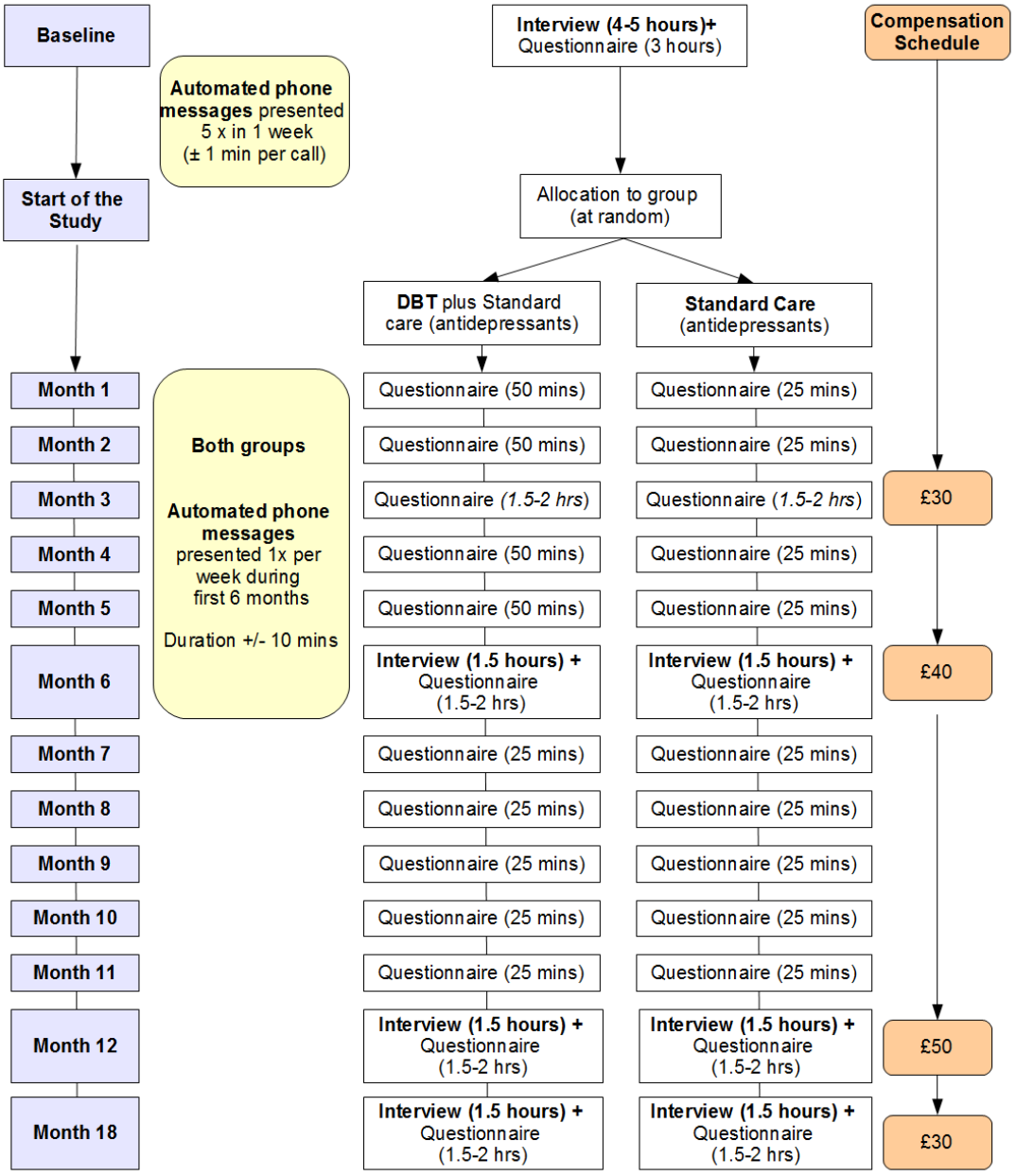


Figure 1. Flow chart of assessment and compensation schedule for REFRAMED

Please note: it will depend on your date of study entry (i.e. before or after the 1st of August respectively) and funding whether or not you will be invited to attend the month 18 follow-up interview, and thus receive the additional £30 after completion of this.

Will my taking part in this study be kept confidential?

All information collected about you during the course of the research will be kept strictly confidential. Your personal details are stored in a separate locked cabinet from all the information we collect and we never put your name on any of the questionnaires that we ask you to fill out. One exception would be if the interview revealed a significant risk of harm to yourself or others, in which case information may be fed back to your GP but normally only after discussion with you. Another exception would be if you have given explicit consent for your video material to be used for teaching purposes.

What will happen to the results of the research study?

The researchers aim to publish the work in an academic journal. We will also provide all those who take part with an information sheet at the end of the study detailing the results we have found. Your identity will never be revealed in any report or publication. Generally our research is reported on the website of the University of Southampton at: http://www.southampton.ac.uk/psychology/research/index.page?

and on the website specifically designed for the present study: www.reframed.org.uk.

If you are interested we can send you paper copies of the findings of this study. We can also give you copies of any papers that get published as a result of this study. This will be your choice.

Who is organising and funding the research? Who has reviewed the study?

The REFRAMED study is organised by the University of Southampton, in collaboration with the University of Plymouth, University of Bournemouth, Swansea University, King's College London, and the University of Bristol.

The research team based at the University of Southampton will co-ordinate the study and the team based in Swansea will be responsible for analysing the data. All the information that is collected about you (including your contact details) will be shared between the study centres and the co-ordinating research team based at the University of Southampton. The RO-DBT treatment will take place at the Intensive Psychological Therapy Services of the Dorset HealthCare University NHS Foundation Trust, Southern Health NHS Foundation Trust, and Betsi Cadwaladr University Health Board.

This research is funded by the Medical Research Council – Efficacy and Mechanisms Evaluation programme, part of the National Institute for Health Research and by the Department of Health. The research has been approved by the South Central Research Ethics Committee (11/SC/0146) and has the support of the Ethics Committee of the Department of Psychology, University of Southampton.

What will happen next?

A member of our research team has spoken to you by telephone and invited you to attend an appointment to discuss the study in more detail. At your first appointment, you will meet a researcher who will explain the study to you. After this, they will ask you questions about your background, history of depression, use of antidepressant medication and current symptoms. This interview is expected to take between 3-4 hours.

> "I was anxious before the assessment but I was keen to be assessed and really happy to get into the RO-DBT treatment group. I found the assessment very helpful. It was great to talk to someone about my mental health issues. I was happy to spend the length of the time of the assessment to create a clear picture of my health. The assessor was very understanding and made me feel relaxed."

In order to take part in our study, certain symptoms must be present. If you are suitable and you would like to take part in the study, we will ask you to sign a consent form. After this, the researcher will give you a pack of questionnaires to take home with you. . You don't have to answer any questions that you don't want to and anything you tell us is confidential.

With your permission, we would like to audiotape the meeting to make sure that the researchers are using a consistent approach. These audiotapes will be stored securely in a locked cabinet at the University of Southampton and will be accessible only to members of the research team.

The first appointment will normally take about 4 hours. You will be given a copy of your consent form, together with a copy of this information sheet to keep. If you are not eligible for the study, or you do not wish to take part, you will continue your usual care with your GP.

What if I have any questions or concerns either now or in the future?

If you have any questions or concerns please feel free to talk to Thomas Lynch, the study's Chief Investigator, or to Roelie Hempel, the Trial Manager.

Thank you for taking the time to read this information.

Prof Thomas Lynch	Roelie Hempel
Professor of Clinical Psychology School of Psychology University of Southampton Email: T.Lynch@soton.ac.uk Telephone: +44(0)23 8059 2633	Trial Manager REFRAMED School of Psychology University of Southampton R.Hempel@soton.ac.uk Telephone: +44(0)23 8059 7162

Appendix B: Participant Consent Form

Title of project:	REFRAMED: REFRActory depression - Mechanisms and Efficacy of Dialectical Behaviour Therapy
Trial Registration Number:	ISRCTN85784627
Chief Investigator:	Professor Thomas R. Lynch, University of Southampton

Patient ID:

Centre: Dorset / Hampshire / North Wales

Please initial the box

1. I have read and understood the information sheet dated **9 December 2014 (Version 4)** for the above study, and been given a copy to keep ☐

2. I have had the opportunity to consider the information, and ask any questions. I have had satisfactory answers to all of my questions ☐

3. I have received enough information about the study ☐

4. I understand that I may not be eligible to take part in the study ☐

5. I understand that details of my participation will be stored anonymously on file and may be used in the final analysis of data ☐

6. I agree to complete the screening interview and questionnaires ☐

7. I give my permission for this interview to be audio-recorded for research purposes. ☐

_____	_____	_____
Name of patient	**Date**	**Signature**

(BLOCK CAPITALS)

I have explained the study to the above patient and he/she has indicated his/her willingness to take part in the screening questionnaires.

_____	_____	_____
Name of researcher	**Date**	**Signature**

(BLOCK CAPITALS)

PART 2a: To be completed by ELIGIBLE patients only				
Patient ID:		**Please initial ONE box**		
		Yes		**No**
8.	I understand that data collected during the study (including information from my medical records) may be looked at by responsible individuals from the REFRAMED study team, from regulatory authorities or from the NHS Trust.			
9.	I give my permission for any DBT treatment sessions to be video-recorded for research purposes.			
10.	I give my permission for any DBT treatment sessions to be video-recorded for teaching purposes. I understand that clips from these recordings may be used in presentations and that this might mean I am not completely anonymous if someone recognises me. I will always be able to withdraw my consent for this in the future.			
11.	I am willing to be interviewed about my experiences of taking part in the study and for this interview to be audio-recorded.			
12.	I understand that my participation is voluntary, and that I am free to withdraw at any time, without giving any reason, and without my medical care or legal rights being affected			
13.	I understand that I may be allocated by chance to treatment as usual and will not be receiving the DBT treatment.			
14.	I understand that someone from the research team will contact me if I forget to complete my assessments. This can be via email, text, or a phone call.			
15.	I understand that in the event that I lose the capacity to consent to the study, identifiable data already collected with consent will be retained and used in the			

	study. No further data will be collected or any other research procedures carried out.			
16.	I understand that my GP will be informed of my participation in the study.			
17.	I understand that if I am allocated to the RO-DBT group, I will be allocated by chance to receiving my reimbursement either via bank transfer or directly from my therapist.			
18.	I agree to take part in this study			
Consent for future contact Please indicate below whether or not you are willing to be contacted in the future		**Yes**		**No**
19.	I am willing to be contacted about any projects on depression that may be planned in the future. I understand that if I have moved you will use the NHS Central Register to obtain my new address.			
20.	In the event that the research team is able to find additional resources, I am willing to be contacted for a follow-up interview 18 months after I have entered the study; I understand I will receive additional reimbursement for this.			

_____	_____	_____
Name of Patient (BLOCK CAPITALS)	**Date**	**Signature**

I have explained the study to the above patient and he/she has indicated (a) his/her willingness to take part in the study and (b) whether or not they are willing to be contacted in the future.

_____	_____	_____
Name of Researcher (BLOCK CAPITALS)	**Date**	**Signature**

Appendix C: Participant Closing Letter

Dear <Title> <Surname>,

Hereby we would like to thank you for your time and effort over the past {12/18} months. With your help we will be able to increase our understanding and improve Radically Open Dialectical Behaviour Therapy for treatment resistant depression.

If you would like to know more about the outcome of this trial, please let us know, either by calling (023 8059 5077) or emailing reframed@soton.ac.uk . We will then make sure that we'll send the outcome to you as soon as the study has finished. Please keep in mind this may take up to 3 years.

Enclosed you'll find your final reimbursement cheque. We hope you have benefitted from being part of this trial, and we wish you all the best for the future.

On behalf of the entire REFRAMED team,

Thank you for your participation

Appendix D: Schwartz Values Scale

In this questionnaire you are to ask yourself: "What values are important to ME as guiding principles in MY life, and what values are less important to me?" There are two lists of values on the following pages. These values come from different cultures. In the parentheses following each value is an explanation that may help you to understand its meaning.

Your task is to rate how important each value is for you as a guiding principle in your life. Use the rating scale below:

0--means the value is not at all important, it is not relevant as a guiding principle for you.

3--means the value is important.

6--means the value is very important.

The higher the number (0, 1, 2, 3, 4, 5, 6), the more important the value is as a guiding principle in YOUR life.

-1 is for rating any values opposed to the principles that guide you.

7 is for rating a value of supreme importance as a guiding principle in your life; ***ordinarily there are no more than two such values.***

In the space before each value, write the number (-1,0,1,2,3,4,5,6,7) that indicates the importance of that value for you, personally. Try to distinguish as much as possible between the values by using all the numbers. You will, of course, need to use numbers more than once.

AS A GUIDING PRINCIPLE IN MY LIFE, this value is:

Opposed to my values	Not important			important			Very important	Of supreme importance
-1	0	1	2	3	4	5	6	7

Before you begin, read the values in List I, choose the one that is most important to you and rate its importance. Next, choose the value that is most opposed to your values and rate it -1. If there is no such value, choose the value least important to you and rate it 0 or 1, according to its importance. Then rate the rest of the values in List I.

VALUES LIST I

1 ____EQUALITY (equal opportunity for all)

2 ____INNER HARMONY (at peace with myself)

3 ____SOCIAL POWER (control over others, dominance)

4 _____PLEASURE (gratification of desires)

5 ____FREEDOM (freedom of action and thought)

6 ____A SPIRITUAL LIFE (emphasis on spiritual not material matters)

7 ____SENSE OF BELONGING (feeling that others care about me)

8 ____SOCIAL ORDER (stability of society)

9 ____AN EXCITING LIFE (stimulating experiences)

10___MEANING IN LIFE (a purpose in life)

11___POLITENESS (courtesy, good manners)

12___WEALTH (material possessions, money)

13___ NATIONAL SECURITY (protection of my nation from enemies)

14___ SELF RESPECT (belief in one's own worth)

15___RECIPROCATION OF FAVORS (avoidance of indebtedness)

16___CREATIVITY (uniqueness, imagination)

17___A WORLD AT PEACE (free of war and conflict)

18___RESPECT FOR TRADITION (preservation of time-honored customs)

19___MATURE LOVE (deep emotional & spiritual intimacy)

20___SELF-DISCIPLINE (self-restraint, resistance to temptation)

21___PRIVACY (the right to have a private sphere)

22___FAMILY SECURITY (safety for loved ones)

23___SOCIAL RECOGNITION (respect, approval by others)

24___UNITY WITH NATURE (fitting into nature)

25___A VARIED LIFE (filled with challenge, novelty and change)

26___WISDOM (a mature understanding of life)

27___AUTHORITY (the right to lead or command)

28___TRUE FRIENDSHIP (close, supportive friends)

29___A WORLD OF BEAUTY (beauty of nature and the arts)

30___SOCIAL JUSTICE (correcting injustice, care for the weak)

VALUES LIST II

Now rate how important each of the following values is for you <u>as a guiding principle in YOUR life</u>. These values are phrased as ways of acting that may be more or less important for you. Once again, try to distinguish as much as possible between the values by using all the numbers.

Before you begin, read the values in List II, choose the one that is most important to you and rate its importance. Next, choose the value that is most opposed to your values, or--if there is no such value--choose the value least important to you, and rate it -1, 0, or 1, according to its importance. Then rate the rest of the values.

AS A GUIDING PRINCIPLE IN MY LIFE, this value is:

Opposed to my values	Not important			important			Very important	Of supreme importance
-1	0	1	2	3	4	5	6	7

31____ INDEPENDENT (self-reliant, self-sufficient)

32____ MODERATE (avoiding extremes of feeling & action)

33____LOYAL (faithful to my friends, group)

34____AMBITIOUS (hard-working, aspiring)

35____BROADMINDED (tolerant of different ideas and beliefs)

36____HUMBLE (modest, self-effacing)

37____DARING (seeking adventure, risk)

38____PROTECTING THE ENVIRONMENT (preserving nature)

39____INFLUENTIAL (having an impact on people and events)

40____HONORING OF PARENTS AND ELDERS (showing respect)

41____CHOOSING OWN GOALS (selecting own purposes)

42____HEALTHY (not being sick physically or mentally)

43____CAPABLE (competent, effective, efficient)

44____ACCEPTING MY PORTION IN LIFE (submitting to life's circumstances)

45____HONEST (genuine, sincere)

46____PRESERVING MY PUBLIC IMAGE (protecting my "face")

47____OBEDIENT (dutiful, meeting obligations)

48____INTELLIGENT (logical, thinking)

49____HELPFUL (working for the welfare of others)

50____ENJOYING LIFE (enjoying food, sex, leisure, etc.)

51____DEVOUT (holding to religious faith & belief)

52____RESPONSIBLE (dependable, reliable)

53____CURIOUS (interested in everything, exploring)

54____FORGIVING (willing to pardon others)

55____SUCCESSFUL (achieving goals)

56____CLEAN (neat, tidy)

57____SELF-INDULGENT (doing pleasant things)

Schwartz, S.H. (2009). *Draft Users Manual: Proper Use of the Schwarz Value Survey, version 14.* Auckland, New Zealand: Centre for Cross Cultural Comparisons.

Appendix E: California Psychotherapy Alliance Scale – Patient Version

CALIFORNIA PSYCHOTHERAPY ALLIANCE SCALE

(CALPAS-Patient version)

DIRECTIONS: Below is a list of questions that describes attitudes people might have about their therapy or therapist. Think about the **session you just completed** and decide the degree to which each question best describes your experience. Circle the number indicating your choice. Please answer each question.

REMINDER: Your responses on this form are confidential and will not be seen by your therapist. You are of course free to discuss with your therapist any of these questions.

		Not at all	A little bit	Some-what	Moder-ately	Quite a bit	Quite a lot	Very much so
1	Did you find yourself tempted to stop therapy when you were upset or disappointed with your therapy?	1	2	3	4	5	6	7
2	Did you feel pressured by your therapist to make changes before you were ready?	1	2	3	4	5	6	7
3	When your therapist commented about one situation, did it bring to mind other related situations in your life?	1	2	3	4	5	6	7
4	Did you feel that even if you might have moments of doubt, confusion, or mistrust, that overall therapy is worthwhile?	1	2	3	4	5	6	7
5	Did your therapist's comments lead you to believe that your therapist placed his/her needs before your own?	1	2	3	4	5	6	7
6	When important things came to mind, how often did you find yourself keeping them to yourself rather than sharing them with your therapist?	1	2	3	4	5	6	7
7	Did you feel accepted and respected by your therapist for who you are?	1	2	3	4	5	6	7
8	How much did you hold back your feeling during this session?	1	2	3	4	5	6	7

9	Did you find your therapist's comments unhelpful; that is confusing, mistaken, or not really applying to you?	1	2	3	4	5	6	7
10	Did you feel that you were working togher with your therapist, that the two of you were joined in a struggle to overcome your problem?	1	2	3	4	5	6	7
11	How free were you to discuss personal matters that you are ordinarily ashamed or afraid to reveal?	1	2	3	4	5	6	7
12	During this session, how willing were you to continue struggling with your problems, even though you could not always see an immediate solution?	1	2	3	4	5	6	7
13	During this session, how dedicated was your therapist to helping you overcome your difficulties?	1	2	3	4	5	6	7
14	Did you feel that you disagreed with your therapist about the kind of changes you would like to make in your therapy?	1	2	3	4	5	6	7
15	How much did you resent the time, cost, or other demands of your therapy?	1	2	3	4	5	6	7
16	Did you feel that your therapist understood what you hoped to get out of the session?	1	2	3	4	5	6	7
17	During this session, how important was it for you to looka t the ways you might be contributing to your own problems?	1	2	3	4	5	6	7
18	How much did you find yourself thinking that therapy was not the best way to get help with your problem?	1	2	3	4	5	6	7
19	Did the treatment you received in this session match with your ideas about what helps people in therapy?	1	2	3	4	5	6	7
20	Did you feel you were working at cross purposes with your therapist, that you did not share the same sense of how to proceed so that you could get the help you want?	1	2	3	4	5	6	7
21	How confident did you feel that through your own efforts and those of your therapist that you will gain relief from your problems?	1	2	3	4	5	6	7

22	Did you have the impression that you were unable to deepen your understanding of what is bothering you?	1	2	3	4	5	6	7
23	How much did you disagree with your therapist about what issues were most important to work on during this session?	1	2	3	4	5	6	7
24	How much did you therapist help you gain a deeper understanding of your problems?	1	2	3	4	5	6	7

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Appendix F: Patient Health Questionnaire – 9

Over the last 2 weeks, how often have you been bothered by any of the following problems?	**Not at all**	**Several days**	**More than half the days**	**Nearly every day**
1. Little interest or pleasure in doing things.....	0	1	2	3
2. Feeling down, depressed, or hopeless.....	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much.....	0	1	2	3
4. Feeling tired or having little energy.....	0	1	2	3
5. Poor appetite or overeating.....	0	1	2	3
6. Feeling bad about yourself — or that you are a failure or have let yourself or your family down……	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television.....	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed? Or the opposite — being so fidgety or restless that you have been moving around a lot more than usual.....	0	1	2	3
9. Thoughts that you would be better off dead or of hurting yourself in some way.....	0	1	2	3

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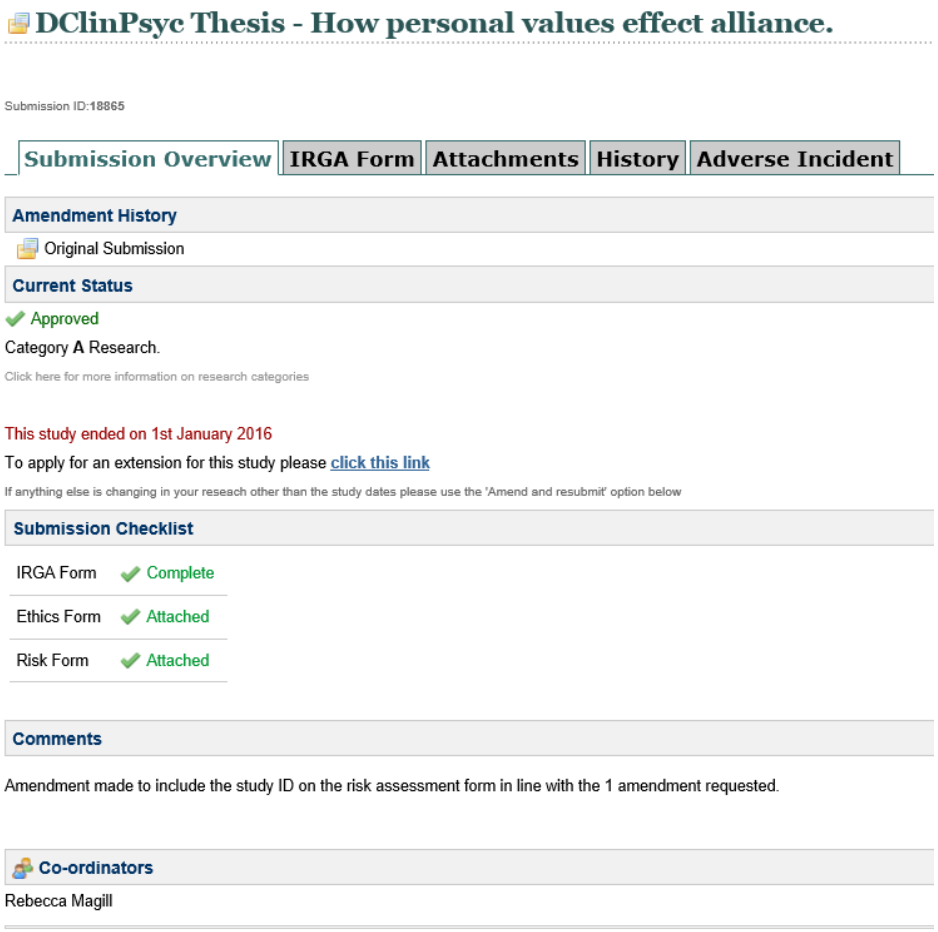
Appendix G: Southampton University School of Psychology Ethics Committee and Research Goverance Approval



DClinPsyc Thesis - How personal values effect alliance.

Submission ID:18865

Submission Overview | IRGA Form | Attachments | History | Adverse Incident

Amendment History

Original Submission

Current Status

Approved

Category **A** Research.

Click here for more information on research categories

This study ended on 1st January 2016

To apply for an extension for this study please click this link

If anything else is changing in your reseach other than the study dates please use the 'Amend and resubmit' option below

Submission Checklist

IRGA Form	Complete
Ethics Form	Attached
Risk Form	Attached

Comments

Amendment made to include the study ID on the risk assessment form in line with the 1 amendment requested.

Co-ordinators

Rebecca Magill

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