

Common Therapeutic Factors in Psychotherapy and
Complementary and Alternative Medicine Treatments

by

Alexander Milovanov

A thesis
presented to the University of Waterloo
in fulfillment of the
thesis requirement for the degree of
Master of Arts
in
Psychology

Waterloo, Ontario, Canada, 2017

© Alexander Milovanov 2017

Author's Declaration

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis including any required final revisions, as accepted by my examiners. I understand that my thesis may be made electronically available to the public.

Abstract

Dozens of common therapeutic factors have been identified in psychotherapy research, but less attention has been devoted to integrating those factors into coherent theoretical frameworks. Frank and Frank (1991) proposed a comprehensive model with four therapeutic factors common across psychotherapies and other socially-sanctioned healing practices: emotionally charged and confiding relationships with healers, healing settings, persuasive treatment rationales, and specific procedures that engage clients in treatments. They held these factors as powerfully therapeutic because they mobilize hope in otherwise overwhelmed individuals. The current study used multi-group SEM to test Frank and Frank's model across diverse treatment groups. Rogerian core conditions (empathy, care, genuineness), perceived practitioner credibility, quality of the healing setting, persuasiveness of treatment rationale, and client's self-assessed hopefulness were measured in five groups of participants. The groups consisted of people receiving treatment for psychological issues from psychotherapists ($n = 686$) and various complementary and alternative medicine practitioners ($n = 155$), and those receiving treatment for pain-related issues from chiropractors ($n = 518$), massage therapists ($n = 234$), and acupuncturists ($n = 100$). Results from the cross-sectional model supported Frank and Frank's hypothesis that their factors independently contribute to the prediction of outcomes across a broad range of healing practices and that their effects are partially mediated by hope. Results from longitudinal analyses based on psychotherapy ($n = 138$) and chiropractic ($n = 134$) groups (outcomes measured six to eight months later) showed partial support for Frank and Frank's model.

Acknowledgements

I am very grateful to my supervisor, Dr. Jonathan Oakman, for his encouragement, inspiration, and guidance, in large things and small. I am also thankful to Dr. Walter Mittelstaedt for his thoughtful comments on my thesis and for the many ways in which he contributes to the Psychological Intervention Research Team (PIRT). This project has come to fruition not in small part due to the help of PIRT research assistants who spent countless hours bringing order out of the chaos of raw data. I am also grateful to Dr. David Moscovitch, who has taken the role of a reader for this thesis and has provided me with many excellent insights and constructive suggestions. Julia McNeil's advice on methodology and statistical analyses has been tremendously helpful. I would also like to acknowledge the Canadian public, without whose contributions in the form of Social Sciences and Humanities Research Council of Canada funding my research would not have been possible. Last but not least, I am eternally grateful to my partner, Jasmine Pauk, my brother, Paul Milovanov, my family, my friends, and my cohort, for not only putting up with me but actually giving me the love and support that no graduate student can survive without.

Table of Contents

| | |
|---|-----|
| List of Tables | vi |
| List of Figures..... | vii |
| Introduction | 1 |
| Method | 32 |
| Results | 41 |
| Discussion | 51 |
| References | 65 |
| Tables..... | 88 |
| Figures..... | 100 |
| Appendix A: Factor Analysis Results in the Construction of Measurement Models | 106 |
| Appendix B: Factor Loadings for Measurement Models | 109 |
| Appendix C: Example of Cross-sectional Structural Model With Estimates..... | 110 |

List of Tables

| | |
|---|----|
| Table 1. Demographic Differences on Continuous Variables Between Treatment Groups. . . . | 88 |
| Table 2. Demographic Differences on Categorical Variables Between Treatment Groups. . . . | 89 |
| Table 3. Practitioner Types and Primary Health Issues for PsyPsych and PsyCAM treatment groups. | 90 |
| Table 4. Primary Health Issues for PainChir, PainMass, and PainAcu treatment groups. | 91 |
| Table 5. Demographic Information for Treatment Groups Used in the Longitudinal Model Compared to the Full Samples. | 92 |
| Table 6. Percent of Variance Explained in Each Common Factor by the Other Three Predictor Factors (R^2 Values). | 93 |
| Table 7. Correlations Between Exogenous Factors in the PsyPsych Group. | 93 |
| Table 8. Correlations Between Exogenous Factors in the PsyCAM Group. | 94 |
| Table 9. Correlations Between Exogenous Factors in the PainChir Group. | 94 |
| Table 10. Correlations Between Exogenous Factors in the PainMass Group. | 95 |
| Table 11. Correlations Between Exogenous Factors in the PainAcu Group. | 95 |
| Table 12. Standardized Path Coefficients with 95% Confidence Intervals for the Cross-sectional Multi-group SEM Model. | 96 |
| Table 13. Standardized Coefficients with 95% Confidence Intervals for the Direct, Indirect, and Total Effects in the Cross-sectional Multi-group SEM Model. | 97 |
| Table 14. Standardized Path Coefficients with 95% Confidence Intervals for the Longitudinal Multi-group SEM Model. | 98 |
| Table 15. Standardized Coefficients with 95% Confidence Intervals for the Direct, Indirect, | |

| | |
|---|-----|
| and Total Effects in the Longitudinal Multi-group SEM Model. | 99 |
| Table A1. ESEM Results for Treatment Rationale Items Using ML Estimation and Geomin Oblique Rotation. | 106 |
| Table A2. Correlations Between Five Geomin-rotated Treatment Rationale Factors. | 106 |
| Table A3. ESEM Results for Hope Items Using ML Estimation and Geomin Oblique Rotation. | 107 |
| Table A4. Correlations Between Five Geomin-rotated Hope Factors. | 107 |
| Table A5. ESEM Results for Positively Worded Hope Items Using ML Estimation and Geomin Oblique Rotation. | 108 |
| Table A6. Correlations Between Four Geomin-rotated Hope Factors. | 108 |
| Table B1. Factor Loadings for Measurement Models. | 109 |

List of Figures

| | |
|---|-----|
| Figure 1. Flow of participants through each stage of the study. | 100 |
| Figure 2. Structural model for the cross-sectional analysis. | 101 |
| Figure 3. Structural model for the longitudinal analysis. | 102 |
| Figure 4. Example of typical response distributions for positively worded and reverse scored items. | 103 |
| Figure 5. Multi-group SEM diagram with measurement models for the Rogerian factor predicted by credibility, healing setting, and treatment rationale. | 104 |
| Figure 6. Multi-group SEM diagram with measurement models for the treatment rationale predicted by the Rogerian factor, credibility, and healing setting. | 104 |
| Figure 7. Multi-group SEM diagram with measurement models for the credibility predicted by the Rogerian factor, healing setting, and treatment rationale. | 105 |
| Figure 8. Multi-group SEM diagram with measurement models for the healing setting predicted by the Rogerian factor, credibility, and treatment rationale. | 105 |
| Figure C1. Example of the cross-sectional structural diagram with measurement models for the PsyPsych group. | 110 |

Introduction

Decades of research have established that psychotherapy is effective at alleviating psychological suffering and improving people's lives (e.g., Seligman, 1995). The typical person receiving psychotherapy fares better than 79% of those who do not receive treatment (Cohen's $d = .80$, Wampold & Imel, 2015; see Cohen, 1992, and Hemphill, 2003, for interpretation of effect sizes), and in comparison to medical practices, psychotherapy stands out as one of the most effective procedures available (Schnyder, 2009). However, much is still unknown about how and why psychotherapy works. Furthermore, despite considerable accumulation of knowledge, the effectiveness of psychotherapy treatments has not increased over time (Miller, Hubble, Chow & Seidel, 2013, p. 89). This may be in part attributable to the typical approach taken to the study of psychotherapy.

Psychotherapy has been often conceptualized in a manner similar to medical treatments: as a set of specific procedures designed to ameliorate specific psychological deficits that cause corresponding mental disorders (i.e., the "Medical Model" approach; Wampold & Imel, 2015). For example, Cognitive-Behavioural Therapy (CBT) for depression purports to work by using cognitive restructuring to directly alter beliefs, which are thought to be causally linked to symptoms of depression (e.g., Beck, 1970; Sudak, 2012). Thus, in CBT, cognitive restructuring is assumed to be a key technique or "active ingredient" that, when applied competently, leads to improvement. This manner of thinking about psychotherapy has resulted in calls for the development, and privileging, of empirically supported therapies (ESTs; Chambless and Ollendick, 2001). ESTs are well-described sets of procedures designed for the treatment of specific disorders, which have been empirically demonstrated to be superior to "placebo" or

“supportive” therapies (i.e., therapies not designed to be therapeutic) or equivalent in efficacy to other ESTs (Chambless and Ollendick, 2001).

It is necessary to seek empirical support for clinical practices, but the EST approach appears to answer Gordon Paul’s (1967) classic question (“*What* treatment, by *whom*, is most effective for *this* individual with *that* specific problem, and under *which* set of circumstances?”) by focusing primarily on the match between diagnosis and treatment. This medical model approach to the development of psychotherapy has been difficult to reconcile with certain research findings that have emerged over the years, which are well summarized by Wampold and Imel (2015). First, the medical approach presupposes specificity, that is, that some treatments should be more effective than others for specific disorders. Yet meta-analyses of studies that compare the effectiveness of different bona fide psychotherapies (therapies that were designed to be therapeutic and based on psychological principles; Wampold & Imel, 2015) for specific disorders consistently find no clinically significant differences between different therapeutic approaches (e.g., Benish, Imel, & Wampold, 2008; Powers, Halpern, Ferenschak, Gillihan, & Foa, 2010; Spielmanns, Pasek, & McFall, 2007). When differences are found, they are typically quite small. For example, the meta-analysis by Marcus et al. (2014) found that cognitive-behavioural treatments were more effective than other bona fide treatments, with the average difference of $d = .16$. Second, meta-analyses of studies that compare effectiveness of therapies with and without theoretically important components (e.g., CBT for depression compared to CBT for depression without cognitive restructuring) generally fail to provide evidence for the causal role of theoretically critical aspects of therapies (Bell et al., 2013). That is, the components of the therapy that its advocates consider to be core to its mechanism of action and critically necessary for the success of treatment, when deliberately omitted from the therapy,

often fail to result in poorer clinical outcomes. Third, and equally problematic for the medical model, is the finding that practitioner' competence in delivering specific treatments, as rated by expert therapists, is only weakly related to outcomes, while simple adherence to treatment protocols appears to be unrelated to outcomes (Boswell et al., 2013; Webb, DeRubeis, & Barber, 2010). Furthermore, therapists differ considerably in how effective they are at helping clients, even in rigorously controlled research settings (Baldwin & Imel, 2013). Careful adherence to the treatment protocols does not appear to mediate these "therapist effects" (Baldwin & Imel, 2013), suggesting that factors other than modality-specific procedures are responsible for variations in outcomes. Altogether, these findings suggest that in many instances faithfully adhering to particular protocols for treating specific disorders is no more beneficial for clients than using the manuals only as loose guides, or using alternate therapeutic approaches altogether (provided that the alternate treatments have been designed to be therapeutic for that disorder and are not merely "supportive" or "placebo" therapy; Wampold & Imel, 2015).

Common Factors Perspective

Given the challenges to the medical view of psychotherapy, many researchers have chosen to focus on those aspects of therapies that are common across psychotherapeutic modalities, instead of assuming that therapeutic change can be primarily attributed to specific techniques. Such a "common factors" (CF) perspective presupposes that in spite of apparent theoretical differences, most psychotherapies, insofar as they are helpful, share powerful therapeutic elements. In an often-cited article, Lambert (1992) attributed 40% of improvement in psychotherapy to extratherapeutic variables (i.e., client characteristics, serendipitous events, etc.), 30% to the helping relationship (i.e., trust between client and therapist, therapist's empathy, care, etc.), 15% to hope, expectancy, and placebo, and 15% to model or technique. Lambert

derived these estimates through an extensive review of the literature, without the use of statistical analysis. Wampold and Imel (2015) refined Lambert's estimates by examining meta-analytic evidence. They attributed 86% of variance in outcomes to extratherapeutic factors (i.e., initial distress, motivation, external support, etc.) and error variance, 0 to 1% to model or technique, and the rest (~14%) to various interrelated common factors, including relationship variables, therapist faith in the therapeutic model, client expectations and attributions, and persuasive treatment rationales. It is important to note that common factors are theorized by researchers to be interdependent and dynamic, rather than merely additive in their effects. It is expected that the influence of any given factor changes with context (Duncan, Miller, Wampold, & Hubble, 2010).

The CF approach is often taken to be at odds with the goal of identifying effective treatment techniques for specific disorders, yielding heated debates over the primacy of common factors and relationship characteristics over treatment models and their accompanying techniques (e.g., DeRubeis et al., 2005; Wampold, 2001). However, some researchers have noted that CF approach is not logically inconsistent with the aim of EST researchers (e.g., McAleavey & Castonguay, 2015; Tschacher, Junghan, & Pfammatter, 2014). Rather, matching treatment models to diagnostic categories can be considered as one of the many ways in which treatment can be tailored to the needs of the clients and to the broader context in which therapy takes place.

Given the complexity of psychotherapy, it is unlikely that any given theory can adequately capture the richness of the psychotherapeutic experience or fully explain the relevant causal processes. By approaching psychotherapy agnostically and examining how it is actually practiced, many CF theorists aim to abstract useful similarities across diverse practices and elucidate the nature of therapeutically important elements (McAleavey & Castonguay, 2015). Thus, by necessity, the abstracted common factors manifest themselves in specific and often

dissimilar practices and techniques. In an interesting example of the recognition of this point, researchers have recently mapped 22 common factors onto 20 specific techniques representative of a variety of therapeutic approaches (Tschacher, Junghan, & Pfammatter, 2014). Considering this perspective, CF formulations are best viewed as complementary to ESTs, and interacting with modality-specific procedures. In the first edition of *The Heart and Soul of Change*, Hubble, Duncan, and Miller (1999) stated that

“models and techniques help provide therapists with replicable and structured ways for developing and practicing the values, attitudes, and behaviours consistent with the core ingredients of effective therapy. This nontraditional role for models and techniques suggests that their principal contribution to therapy comes about by enhancing the potency of the other common factors...” (p. 421).

A Brief History of Common Factors Research

One of the first descriptions of the CF perspective was given by Saul Rosenzweig (1936), who remarked upon the comparable therapeutic gains produced by diverse treatment techniques and wondered whether hitherto unarticulated shared factors could explain the similarities in outcomes. In 1957, Carl Rogers famously outlined six conditions that he believed were necessary and sufficient for psychotherapy (or any other relationship) to be therapeutic: 1) two people must be in psychological contact, with 2) one experiencing incongruence (i.e., a mismatch between the person’s understanding of herself and her actual experiences, causing feelings of vulnerability or distress), and 3) the other being congruent, genuine, or integrated in the relationship. The congruent individual has to 4) experience and express non-possessive caring for the other (i.e., unconditional positive regard), and 5) communicate an empathetic understanding of the other’s worldview. Furthermore, 6) the care and empathy must be apparent to at least to some degree to

the incongruent individual. Of the six, empathy, unconditional positive regard (i.e., acceptance and valuing of the client), and congruence (i.e., genuineness), have received considerable empirical support (Norcross, 2011), although their status as either necessary or sufficient for successful treatment has been disputed (e.g., Farber, 2007; Lazarus, 2007; Mahrer, 2007).

In 1961 Jerome Frank published his first edition of *Persuasion and Healing* (updated in 1973 and 1991), in which he identified similarities between various forms of psychotherapy and other healing practices around the world. Drawing upon relevant anthropological and clinical research findings, he argued that mobilization of hope is a critical aspect of healing. Thus, in addition to the Rogerian relationship factors, psychotherapists should offer clients persuasive explanations of their problems accompanied by procedures that clients find credible. Frank's ideas proved influential, forming the core of the more recently developed "Contextual Model" of psychotherapy (Wampold, 2001; Wampold & Imel, 2015). A more extensive exposition of Frank and Frank's ideas will follow in the next section.

In 1979, Edward Bordin published his seminal paper on the Working Alliance (WA). He offered a pan-theoretical definition of WA (originally a psychoanalytic concept) and proposed that WA is a key aspect of the relationship between the therapist and the client. He outlined three interconnected features of WA: a trusting bond, an implicit or explicit agreement on the goals of therapy, and assignment of relevant therapeutic tasks by the clinician. Since the publication of Bordin's paper, WA has become one of the most studied variables in psychotherapy research, with Bordin's definition being the one most commonly used (Doran, 2016; Wampold & Imel, 2015).

Many different common factors and conceptual frameworks were proposed in the 1980s, derived mostly through rational analysis of the therapeutic process (Weinberger, 1995). By the

time Grencavage and Norcross (1990) conducted a systematic review of common factors literature, examining 50 publications from 1936 to 1989, they were able to identify 89 factors. These authors commented that there was “little apparent agreement or empirical research on therapeutic commonalities” (Grencavage & Norcross, 1990) due to the highly diverse conceptualizations of common factors and the differences in their levels of abstraction. In an attempt to reign in the number of factors, Grencavage & Norcross used a mix of rational and empirical analysis. They excluded common factors mentioned in fewer than 10% of publications, and narrowed down the list to 35 items by grouping together factors that appeared to be similar. They further organized the factors into five sensible categories: client characteristics, therapist qualities, change processes, treatment structures, and relationship elements.

Over a decade later, Tracey and colleagues (2003) refined the work of Grencavage and Norcross by subjecting their 35 factors to further analysis. They asked 21 psychologists to rate the degree of similarity between individual common factors (through randomized pairing) and subjected the data to two different statistical procedures. Based on their analyses, Tracey et al. (2003) concluded that common factors can be adequately grouped into three clusters: bond, information, and structure. The “bond” cluster is characterized by a warm, soothing, and emotionally charged therapeutic alliance between a therapist and a help-seeking client. The second cluster encompasses accurate therapist feedback and persuasive explanations that are consistent with client worldviews and beliefs about their disorders or complaints. Finally, the third cluster refers to structures of psychotherapy, both explicit (i.e., specific therapeutic techniques and rituals) and implicit (i.e., a person who is a socially sanctioned healer uses a coherent theoretical framework to deliver a treatment that is expected by both the healer and the client to be beneficial). Tracey et al., (2003) concluded their article by stating that in

psychotherapy clinical trials, proper “common factors” control groups must be characterized by all three of the identified clusters.

In recent years, as part of an effort to establish a more balanced understanding of “Evidence-based practice in psychology” by including empirically-supported relationships (ESRs; i.e., common therapeutic factors) alongside ESTs, the American Psychological Association sponsored a task force aimed at identifying relationship factors that improve outcomes in psychotherapy (Norcross & Lambert, 2011). The task force commissioned over 20 meta-analyses, which produced compelling evidence for the importance of a number of closely related and conceptually overlapping common factors, such as working alliance (Horvath, Del Re, Flückiger, & Symonds, 2011), successful repair of alliance ruptures (Safran, Muran, Eubanks-Carter, 2011), goal consensus and collaboration (Tryon & Winograd, 2011), empathy (Elliott, Bohart, Watson, & Greenberg, 2011), positive regard (Farber & Doolin, 2011), and genuineness (Kolden, Klein, Wang, & Austin, 2011). Each of the mentioned variables accounted for a considerable amount of variance in outcome scores: between 6 to 12% ($r = .24 - .34$). Additionally, other task force sponsored meta-analyses demonstrated the importance of tailoring therapy to match client characteristics. Ranked from largest effects to smallest, the client characteristics were: the degree of irritability and oppositionality ($d = .76$; Beutler, Harwood, Michelson, Song, & Holman, 2011), readiness and desire to change ($d = .70-.80$; Rosen, 2000), internalizing vs. externalizing coping style ($d = .55$; Beutler, Hardwood, Kimpara, Verdirame, & Blau, 2011), culture ($d = .46$; Smith, Rodriguez, & Bernal, 2011), general preferences (i.e., treatment format, relationship style, therapist characteristics, and treatment length; $d = .31$; Swift, Callahan, & Vollmer, 2011) and religion/spirituality (non-significant effects for mental health outcomes, but $d = .33$ for spiritual outcomes; Worthington, Hook, Davis, & McDaniel, 2011).

Finally, the task force concluded that client's positive expectations for improvement (Constantino, Glass, Arnkoff, Ametrano, & Smith, 2011) and secure attachment style (Levy, Ellison, Scott, & Bernecker, 2011) were definitely related to better treatment outcomes (Norcross, 2010).

Wampold's and Frank and Frank's Contextual Model of Psychotherapy

Although evidence for individual therapeutic factors is valuable, a coherent theoretical framework incorporating diverse common factors research can help us understand how these elements of therapy interact to produce positive change. In *The Great Psychotherapy Debate* (first edition written by Bruce Wampold in 2001), Wampold and Imel (2015) advanced an overarching theory of psychotherapy, dubbing it the Contextual Model. They proposed that once basic trust has been established between the therapist and the client (based on initial impressions, prior expectations, etc.), all bona fide psychotherapies achieve their beneficial effects through three main pathways: the real relationship, positive expectations, and modality-specific therapeutic actions. The real relationship refers to the genuine interactions between a caring and empathetic therapist and a client (Rogerian conditions), and is purported to lead the therapeutic changes at least in part by satisfying the need for social connectedness (pp. 55-56). Positive expectations for therapy, evoked to a large extent by cogent treatment rationales and effective collaboration between therapists and clients, mobilize the placebo effect, give hope for a better life, motivate clients to engage in therapeutic tasks, and help to develop a sense of mastery (pp. 56-59). Therapeutic actions are also important according to the contextual model, as helping clients engage in any sort of healthy activity (changing their unhelpful patterns of thinking, improving relationships, facing their problems and fears, or overcoming bad habits) generalizes to other areas of life and promotes a stronger sense of self (pp. 59-60).

Wampold and Imel (2015) based their contextual model on the ideas of Jerome Frank, whose theory of common factors has been perhaps one of the most influential. Given the lasting impact and continuing relevance of Frank's ideas, his model of psychotherapy warrants a closer examination. Frank developed his ideas in the first two editions of *Persuasion and Healing* (1961, 1973), later updating them with the help of his daughter, Julia, in the third iteration of the book (Frank & Frank, 1991). Frank and Frank (2004) adopted a purposefully broad definition of psychotherapy, defining it as "a planned, emotionally charged, confiding interaction between a trained, socially sanctioned healer and a sufferer" (p. 46). They evaluated different psychotherapy approaches in the context of other healing traditions throughout human history, and identified common threads in such diverse practices as drug therapy, individual, group, and family psychotherapy, conventional medicine, cult conversions, and nonmedical (religio-magical) healing rituals of non-industrialized societies. Frank and Frank (1991) concluded that despite the multitude of psychotherapeutic approaches, thinking about them as varieties of the same practice has considerable practical benefits, such as the ability to identify therapeutically potent shared characteristics (p. 39).

Frank and Frank (1991) began by noting the type of people who typically undergo psychotherapy. They proposed that, with some exceptions, individuals seek psychotherapy because they are demoralized: people feel overwhelmed and unable to cope with their life circumstances (pp. 34-37). According to Frank and Frank, demoralization occurs when people habitually fail to interpret their experiences in ways that help them solve their problems, resulting in frequent negative emotions (anger, frustration, anxiety, sadness, etc.), a loss of confidence in their own abilities, and a formation of rigid networks of unhelpful assumptions and beliefs (i.e., negative schemas, in the language of cognitive behavioural therapy; Padesky, 1994).

Effective therapies, therefore, combat demoralization and incite hope by helping clients reframe their experiences in ways that make their problems appear understandable, manageable, and not altogether abnormal. Frank and Frank believed that psychotherapy's aim was to help people modify their assumptions and beliefs, and that psychotherapy was therefore closer to the art of rhetoric than to applied behavioural science (1991, p. 73). Nevertheless, they acknowledged that psychotherapeutic practices are influenced by research findings and that therapists gain their cultural legitimacy by appealing to science (p. 73).

Frank and Frank (1991) identified four common factors that they believed were characteristic of all persuasive, and thus effective, psychotherapies: (1) an emotionally charged, confiding relationship with a socially sanctioned helping person; (2) a healing setting; (3) a rationale, conceptual scheme, or myth that plausibly explains the client's symptoms and prescribes a ritual or procedure for resolving them; and (4) a ritual or procedure that requires the active participation of both patient and therapist and that is believed by both to be the means of restoring the patient's health (pp. 40-44). From this perspective, the specific procedures, techniques, and theoretical explanations inherent to any given therapeutic model are valuable, to a large extent, because they help amplify the persuasiveness of the therapist and aid in the development of a strong therapeutic bond. In this regard, Frank and Frank (1991) recommended that therapists learn as many therapeutic models as they find convincing, and choose for each client a therapy that can be brought into accord with his or her worldview and personal characteristics (p. xv). Notably, the emphasis on the believability of therapeutic models and associated techniques does not preclude the possibility that the most persuasive explanations and procedures are exactly those that are informed by behavioural science (e.g., following effective

procedures can lead to the resolution of emotional issues or interpersonal conflicts, which is hope-inspiring).

Altogether, the four factors outlined by Frank and Frank (1991) are proposed to work synergistically to create psychologically powerful circumstances under which clients can examine, understand, and reframe their emotionally-laden experiences. Furthermore, the presence of these factors mobilizes a number of interconnected therapeutic processes: the clients feel connected (or less alienated), hopeful, and emotionally aroused (pp. 44-47). They also have an opportunity to learn (both cognitively and experientially), practice new skills, and gain a sense of mastery (pp. 47-51). Interestingly, the four main common factors described by Frank and Frank (1991) map almost perfectly onto to the meta-categories derived empirically by Tracey et al. (2003; i.e., bond, information, and structure). More specifically, Frank and Frank's first and third factors correspond to bond and information clusters. Meanwhile, the client's perception of the therapist as a legitimate "helping person," the healing setting, and rituals/procedures, are the structures of psychotherapy.

Notably, Frank and Frank (1991) emphasized that the common factors they identified were not exclusive to conventional psychotherapy. Indeed, the factors are perhaps even more vital to the understanding of other healing approaches (p. 2), such as complementary or alternative medicine practices (CAMs). Lampropoulos (2001) further extended the applicability of Frank and Frank's ideas by illustrating how each of their common factors (with the exception of the healing setting) manifested in commonplace human interactions aimed at producing beneficial changes. For example, he described the role of persuasive explanations in parent-child, teacher-student, and coach-athlete relationships. Furthermore, Lampropoulos (2001) suggested

that research on the similarities between psychotherapy and other social relations can lead to the discovery of hitherto unidentified change processes.

Complementary and Alternative Medicines

CAMs can be defined simply as those practices and treatments that have not been incorporated into the conventional medicine (Pan et al., 2011). These practices are commonly classified into 5 categories: biologically based therapies (e.g., herbs, vitamins), mind-body therapies (e.g., biofeedback, hypnosis), manipulative and body-based therapies (e.g., massage, chiropractic manipulation), energy therapies (e.g., Reiki, Qigong, therapeutic touch), and alternative medical systems (e.g., Traditional Chinese medicine; Pan et al., 2011). CAMs are used by large numbers of people, with 16% of adults in the US visiting CAM practitioners at least once a year (Barnes, Bloom, & Nahin, 2007).

The common factors proposed by Frank and Frank (1991) may be especially relevant to CAMs due to the lack of strong evidence supporting specific therapeutic mechanisms in these treatments. For example, a meta-analysis of high-quality RCTs (29 studies with 17922 patients) found small effect sizes ($d = .15 - .23$) for true vs. sham acupuncture in diverse pain conditions (Vickers et al., 2012), which suggests that most of the effects of acupuncture are attributable to non-specific (common) therapeutic factors. Additionally, although people often seek help from chiropractors for pain issues, there is little support for the theory of disease underlying chiropractic practice (Mirtz, Morgan, Wyatt, & Greene, 2009). A Cochrane review on the use of spinal manipulative therapy (SMT, often used by chiropractors) for low-back pain concluded that evidence for the superiority of SMT over sham or placebo treatment was very weak (Rubinstein et al., 2012). Finally, the National Health and Medical Research Council of Australia considered it important to review evidence for the efficacy of homeopathy due to its widespread use. Based

on a review of 176 studies, the council concluded that research findings did not demonstrate that homeopathy was more effective than placebo for any health condition (NHMRC, 2015). Despite the lack of strong evidence for “active ingredients,” many people continue to use CAMs, often prefer them to conventional treatments (Eisenberg et al., 2001), and are attracted to them due to certain beliefs about illness and treatment (Bishop, Yardley, & Lewith, 2006). This suggests that CAMs are experienced as beneficial primarily due to contextual and relationship influences, which makes them especially well-suited for the study of common therapeutic factors. In the following sections of this paper, Frank and Frank’s ideas are evaluated in light of existing psychotherapy and CAM research.

Hope and the Placebo Effect

One of the central themes that runs through the writings of Frank and Frank (1991) is the importance of hope in healing. Hope in this context refers to the expectation that treatment will facilitate the attainment of important life goals, as well as the accompanying positive motivation. Hope is purported to have a myriad of beneficial effects, including motivating clients to engage in therapy, directly alleviating symptoms of demoralization (i.e., anxiety, depression, loneliness, etc.), and mobilizing the placebo effect. To have hopeful expectations, individuals must have at least somewhat clearly defined goals (e.g., alleviation of suffering), be able to perceive means of achieving those goals (e.g., a credible treatment), and feel capable of pursuing those means (see Snyder’s theory of hope, 2002). A meta-analysis of studies in which client expectations of improvement were measured either pre-treatment or in early stages of therapy found a relatively small effect ($d = .24$; Constantino, Arnkoff, Glass, Ametrano, & Smith, 2011). However, this estimate may be inaccurate given that 68% of studies included in the analysis had poor quality measures of expectancy. Moreover, the authors noted that measurement of

expectancy exclusively during early stages of therapy may not be appropriate given that expectations are likely to change over the course of treatment as clients gain a more accurate understanding of the therapeutic process.

Although Constantino et al. (2011) found a relatively small effect, positive expectations are well understood to play an important role in the placebo effect (Price, Finniss, & Benedetti, 2008). With some exceptions (e.g., Hróbjartsson & Gøtzsche, 2010), most researchers consider the placebo effect to be robust and relevant to the treatment of a wide range of health concerns (Bensing & Verheul, 2010). Furthermore, some conditions, such as those related to anxiety, pain, immunological and autonomic nervous system functioning, may be more amenable to placebo than others (Papakostas & Daras, 2001). The placebo effect, once considered as something inert and incidental to treatment, has now been reconceptualized as an active psychobiological healing agent in its own right. Price et al. (2008) define the placebo treatment as a “simulation of an active therapy within a psychosocial context” (p. 567).

In a comprehensive review of research on the placebo effect, Price et al., (2008) state that the strength of the placebo effect depends on at least four factors: desire for something to happen, the expectation that it will happen, relevant prior experiences (conscious and unconscious learning), and somatic feedback (i.e., seeing desired changes). For example, the placebo effect should be especially powerful if a person feels strong pain, expects it to abate with treatment, has benefited from a similar treatment in the past, and is repeatedly administered the treatment while perceiving decreases in pain each time. Bensing and Verheul (2010) add that the strength of the placebo response can also be influenced by changes in affect (e.g., reduction of anxiety through a warm and empathic approach of the clinician). Importantly, the placebo effect is not merely a manifestation of response bias on the part of the client, but is related to

observable changes in brain activity, release of opioids, dopamine, and cholecystokinin in the central and peripheral nervous systems, and changes in the endocrine, immunological, respiratory, and cardiovascular functioning (Jubb & Bensing, 2013; Pollo, Carlino, & Benedetti, 2011; Price, Finniss, & Benedetti, 2008).

Estimates of the placebo response vary widely as the size of the effect depends on circumstances. Additionally, effects are often estimated from studies that were not designed to produce strong placebo responses. That said, a meta-analysis of studies on the analgesic placebo response found an overall medium effect of $d = .51$ (Hróbjartsson, & Gøtzsche, 2006). Furthermore, a meta-analysis on the use of sham acupuncture for treatment of diverse health conditions (e.g., depression, pain, nausea, irritable bowel syndrome, etc.) found an overall effect size of $d = .41$ (Linde, Niemann, & Meissner, 2010). These estimates, however, do not indicate the upper limits of the placebo effect under optimal conditions. For example, one study in which sham acupuncture was used to treat irritable bowel syndrome found that when acupuncture was delivered by an empathetic, encouraging, and caring practitioner who took time to discuss the client's concerns, patients experienced a very large decrease in symptoms (difference of $d = .99$ between waitlist control and "augmented" sham acupuncture conditions; Kelley et al., 2009).

Another source of compelling findings on the power of placebo comes from research on the use of antidepressants. Kirsch et al. (2008) analyzed data from 35 clinical trials (submitted to US Food and Drug Administration) comparing effectiveness of antidepressants to placebos in the treatment of depression. The authors found that the overall placebo effect was large ($d = .92$) and only somewhat smaller than the overall drug effect ($d = 1.24$). These findings have been replicated in later meta-analyses (e.g., Fournier et al., 2010), and recent research has suggested that the placebo effect in antidepressant trials is mediated by patient expectancies (Rutherford et

al., 2016). Kirsch (2015) further argued that any differences in efficacy found between drug and placebo conditions could be attributable to the fact that the trials are not truly double-blind: both patients and clinicians are able to tell placebos apart from active drugs due to the absence of side-effects. If the trials are not double-blind, the expectations for improvement and the corresponding placebo responses would be weaker in the control conditions as compared to the active treatment conditions, leading to the differences in effect sizes between conditions. As Wampold and Imel (2015) noted, the large placebo effects found in antidepressant trials suggest that giving clients believable explanations for their distress (i.e., chemical imbalance) and prescribing actions that are expected to be beneficial (i.e., take a pill) in the context of a therapeutic relationship with a healthcare provider, can produce powerful therapeutic effects, comparable in size to genuine treatments.

Placebo effects in psychotherapy are even more difficult to estimate than in drug trials. The double-blind, random assignment design that is gold standard in medical research is not easily transferable to psychotherapy. First of all, therapists are necessarily aware of the treatment conditions (Wampold, Minami, Tierney, Baskin, & Bhati, 2005). This is problematic because of therapist allegiance, which refers to the degree to which a therapist believes a given therapy to be effective. A recent meta-meta-analysis (a meta-analysis of 30 previous meta-analyses on the topic) found an overall therapist allegiance effect of $d = .54$ (medium size), which was homogeneous across the meta-analyses included in the paper (Munder, Brüttsch, Leonhart, Gerger, & Barth, 2013). Thus, when therapists deliver treatments that they believe in, the treatments are considerably more effective. This points to the importance of positive therapists' expectations in psychotherapy, while simultaneously explaining why placebo conditions in psychotherapy clinical trials do not typically constitute appropriate controls.

In addition to allegiance effects, clinical trials in psychotherapy research are problematic because clients are also frequently aware of which treatment they are receiving. This is due to a lack of equivalence between control and active treatment conditions in terms of structure and credibility (Boot, Simons, Stothart, & Stutts, 2013; Wampold & Imel, 2015). More specifically, they often differ in length, format, apparent relevance to client problems, and extent of therapist training (Wampold et al., 2005). Furthermore, control conditions often lack elements that would promote positive expectations: persuasive treatment rationales, specific therapeutic task, and agreement on goals and tasks between therapists and clients (critical aspect of working alliance; Wampold & Imel, 2015). To address this issue, at least in part, Baskin, Tierney, Minami, and Wampold (2003) used a meta-analytic approach to compare genuine psychotherapies to structurally equivalent control/placebo conditions (same length, format, therapist training, individualized approach, and discussion of relevant topics). They found a very modest difference ($d = .14$; $n = 8$) in favor of bona fide treatments.

Some researchers have argued that attempting to separate the placebo effects from “genuine” effects of psychotherapy is a fool’s errand, given that both effects are real, psychologically mediated, and produced by similar factors (Kirsch, Wampold, & Kelley, 2016). For example, Barret et al. (2006) outlined a number of clinician actions that enhance the placebo response which are virtually indistinguishable from the common factors identified in psychotherapy research (Grencavage & Norcross, 1990): speaking positively about the treatment, providing encouragement and reassurance, developing trust, supporting important interpersonal relationships, respecting uniqueness, exploring values, and creating ceremonies or rituals.

Helping Relationship

Working alliance. Decades of research have supported the notion that the quality of the client-therapist relationship is an important determinant of therapy outcomes. Working alliance, specifically, has been one of the most commonly studied variables in psychotherapy (Doran, 2016; Horvath et al., 2011). Although many definitions of WA have been proposed, Bordin's (1979) conceptualization (trusting bond and agreement on goals and tasks) generated a considerable amount of research. Commonly used measures of WA all center around confidence, collaboration, and consensus between the therapist and the client (Horvath et al., 2011).

Overall, the evidence for importance of WA is strong. Multiple meta-analyses have established the relationship between WA and outcomes across diverse types of treatment (Wampold & Imel, 2015). One of the most recent meta-analyses, based on an examination of 190 independent datasets, found a medium average correlation of $r = .28$ (Horvath et al., 2011). Two thirds of the studies in the meta-analysis used Working Alliance Inventory (Horvath & Greenberg, 1989), a measure based explicitly on Bordin's definition. However, the moderator analyses indicated that alliance was predictive of outcomes regardless of the measure used, the perspective from which it was evaluated (client, therapist, observer), time of assessment (early, mid, or late stage of therapy), and therapeutic modality (CBT, Interpersonal Therapy, Psychodynamic, etc.). All estimates were $r \geq .20$ (Horvath et al., 2011). Additionally, the evidence suggested that the estimates were not significantly affected by the "halo effect" (artificial inflation of a correlation between two variables when both variables are rated by the same individual).

Altogether, the findings from Horvath et al., (2011) and previous meta-analyses (e.g., Martin, Garske, & Davis, 2000) suggest that WA is robustly related to therapy outcomes. However, a more nuanced understanding of the relation of the WA to therapy outcomes has yet

to be achieved. For example, the causal relations between symptom improvements and WA are still debated (Doran, 2016; Wampold & Imel, 2015; Zilcha-Mano, 2017). In this regard, several recent studies have measured symptom change and the development of WA across the duration of treatment and found that increases in the WA, independent of prior symptom severity, predicted future symptom reduction (e.g., Xu & Tracey, 2015; Zilcha-Mano & Errázuriz, 2015). The same was true for symptom changes, which predicted future WA ratings. In other words, WA and outcomes were mutually dependent (see Zilcha-Mano, 2017 for a review). Moreover, some of the studies that are cited in literature as evidence against the idea that WA contributes to outcomes over and above early improvements in therapy show positive effects of WA, but do not reach statistical significance, an outcome that is most likely due to limited power due to small sample sizes (e.g., Strunk, Brotman, & DeRubeis, 2010; Strunk, Cooper, Ryan, DeRubeis, & Hollon, 2012).

Another aspect of WA that requires further investigation is the relative importance of therapist and client contributions. In other words, do certain clients benefit more from therapy because they form alliances more readily, or are some therapists generally more effective because they are able to create better alliances with a range of clients? Some existing research supports the latter interpretation over the former (see Baldwin & Imel, 2013 for a review). For example, one study used multilevel modeling to examine within-therapist and between-therapist effects in a population of college counselling clients (Baldwin, Wampold, & Imel, 2007). The results suggested that some therapists were more effective than others because they were able to develop stronger alliances with clients. However, clients who were better at forming working relationships did not show more improvement than other clients who were seen by the same therapists. Using a similar methodology, Zuroff et al. (2010) showed comparable results for

Rogerian factors (empathy, positive regard, and congruence), as rated by psychiatric patients receiving manualized treatments in the context of a clinical trial. That is, they found that the therapist's ability to act in a caring, empathetic and genuine manner with diverse clients was more important than the clients' capacities to elicit such positive behaviours from their therapists (i.e., by being friendly). The findings with regards to WA specifically were corroborated by a recent meta-analysis (Del Re, Flückiger, Horvath, Symonds, & Wampold, 2012). Del Re and colleagues argued that the study therapist-to-client ratio could be used as proxy measure of the portion of variance in WA scores that is attributable to therapists' characteristics. For example, it would be expected that WA ratings for 30 clients seen by 30 different therapists would vary much more due to therapists' qualities than WA ratings of 30 clients all treated by the same therapist. Using therapist-to-client ratios as a moderator, Del Re et al. (2012) found that the studies with lower ratios (i.e., more WA variance attributable to therapists' characteristics) tended to report stronger associations between WA scores and treatment outcomes. Despite these intriguing findings, the relevance of therapists' contributions to WA ratings continues to be debated. Some recent studies did not find significant therapist effects, perhaps due to differences in diversity of therapists that participated in those studies (Xu & Tracey, 2015; Zilcha-Mano & Errázuriz, 2015; Zilcha-Mano, & Errázuriz, 2017).

Empathy, positive regard, and genuineness. Since originally described by Rogers (1957), the importance of empathy, acceptance/positive regard, and genuineness/congruence in the therapeutic relationship have garnered considerable empirical support. Empathy is a complex phenomenon that involves at least three interrelated components: the ability to understand and take the cognitive perspective of another person, to feel, consequently, what that person is feeling, and to regulate the felt emotions (e.g., by expressing compassion; Eisenberg, & Eggum,

2009; Elliott et al., 2011). Furthermore, empathy is expressed differently across various therapeutic approaches. For example, experiential therapies emphasize the importance of moment-to-moment attunement between the client and the therapist, whereas psychodynamic treatments prioritize the understanding of how client's historic experiences have shaped current patterns of behaviour (Elliott et al., 2011). The differences in how empathy is used across treatments point to the complexity of operationalizing and measuring empathy, as well as other Rogerian factors. For example, empathy can be treated as a stable therapist trait, or measured as a quality of the interaction, changing from session to session (Elliott et al., 2011, Gibbons, 2011; Kunyk & Olson, 2001).

Barrett-Lennard (1981), whose scale is commonly used to measure Rogerian factors (i.e., Barrett-Lennard Relationship Inventory; Barrett-Lennard, 2015), used a practical approach to operationalizing empathy. He divided it into three parts, based on different perspectives: therapist-rated "empathic resonance", observer-rated "expressed empathy", and client-rated "received empathy". An expert panel commissioned by an APA task force described earlier reviewed the existing research on empathy, taking into consideration the number, quality, and independence of studies, as well as the consistency of findings. The panel rated empathy as "demonstrably effective" in bringing about positive therapeutic changes (Norcross, & Wampold, 2011). A meta-analysis commissioned by the task force found a medium overall correlation between empathy ratings and improvement in therapy ($r = .30$ based on 59 datasets; Elliot et al., 2011). Although client-rated empathy appeared to have the strongest association with outcomes ($r = .32$), it was not statistically different from observer-rated ($r = .25$) or therapist-rated empathy ($r = .20$; Elliot et al., 2011).

With regards to Rogers' second relationship factor, positive regard, the APA task force expert panel rated it as "probably effective" in producing positive outcomes (Norcross, & Wampold, 2011). Positive regard has been referred to by researchers in various ways: non-possessive warmth, spontaneous praising, caring, acceptance, and therapist affirmation of the client (Farber & Doolin, 2011). The Barrett-Lennard Relationship Inventory (BLRI; Barrett-Lennard, 2015) measures positive regard with two subscales: level of regard (i.e., how much care is expressed by the therapist?) and unconditionality of regard (i.e., is the care conditional on certain behaviours of the client?). An APA sponsored meta-analysis found an overall correlation of .27 between positive regard and therapy outcomes (based on 18 studies; Farber & Doolin, 2011). Farber & Doolin (2011) noted that positive regard was especially predictive of positive outcomes in psychodynamic therapies.

Compared to empathy and positive regard, genuineness/congruence has received considerably less attention from researchers, especially since the 1990s. As such, after a review of existing literature, the APA expert panel rated this variable as "promising, but insufficient research to judge" (Norcross, & Wampold, 2011). Genuineness/congruence encompasses two aspects: 1) therapists acting sincerely and authentically in the therapeutic relationship and having a lucid awareness of their moment-to-moment experiences (thoughts, emotions, etc.), and 2) freely communicating those experiences to clients when appropriate (especially when those experiences are negative; Kolden et al., 2011). Rogers (1957) believed that therapist authenticity was a prerequisite for the expression of empathy and positive regard in a manner that is therapeutic. The meta-analysis by Kolden et al. (2011) found an overall correlation of .24 between genuineness and therapy outcomes ($n = 16$). However, the relationship did not hold across different therapy types ($r = .04$ for psychodynamic and $r = .36$ for eclectic, client-

centered, or interpersonal) or sources of outcome measurement ($r = .29$ for client-rated outcomes and $r = .07$ for therapist-rated outcomes). In general, the authors cautioned about making any generalizations with regards to the applicability of genuineness/congruence across different treatment types, as the meta-analysis was based on a relatively few studies of varying quality (Kolden et al., 2011).

Relation between working alliance and Rogerian relationship factors. Although there is considerable overlap between WA, especially the “bond” aspect, and the Rogerian factors, the two aspects are empirically and conceptually distinct. For example, as part of their contextual model, Wampold & Imel (2015) presented a case for distinguishing between two aspects of the therapeutic relationship: the WA and the real relationship (RR). The RR is primarily characterized by genuineness of the interactions, but also includes aspects of Rogerian empathy and positive regard. The bond aspect of WA, on the other hand, hypothetically refers to whether the client and the therapist like and respect each other enough to engage in specific therapeutic procedures. Wampold & Imel (2015) suggested that although WA is important because it facilitates the work of therapy and helps build positive expectations, it does not necessarily produce therapeutic changes in and of itself. The real relationship, however, is hypothesized to be healing in its own right, and strongly contributing to the development of the WA (Gelso, 2014; Rogers, 1957; Wampold & Imel, 2015; Kivlighan Jr, Kline, Gelso, & Hill, 2017). Kivlighan Jr et al., (2017) noted that the few studies that have measured both WA and RR have all found that the two factors independently contribute to therapy outcomes. Additionally, in their study Kivlighan Jr et al. (2017) found that WA and RR, rated at each session by therapists and clients, displayed distinct relations to client ratings of session quality. A recent meta-analysis on the relation between WA, empathy, and genuineness, found a mean $r = .50$ between WA and

empathy, an $r = .59$ between WA and genuineness (Nienhuis et al., 2016). The authors concluded that although empathy and genuineness significantly contribute to the formation of the working alliance, the concepts appear to be at least somewhat empirically distinct.

Therapist credibility. Frank and Frank (1991) noted that practitioners must be perceived within the patient's social context as credible and competent healers if they are to be effective. The practitioner's acting out the role of a socially sanctioned healer is part of the structures of psychotherapy, as described by Tracey et al. (2003). Practitioner credibility helps in the development of the therapeutic alliance and increases the client's expectations of improvement (Frank and Frank, 1991). Strong (1968), whose theory of social influence generated considerable research, suggested that therapist credibility depends on the perception of expertise, attractiveness, and trustworthiness. The most recent and most extensive meta-analysis on credibility and therapy outcomes showed that therapist credibility was a strong predictor of client satisfaction ($d = 1.33$), and a moderate predictor of changes in client attitudes ($d = .69$) and behaviours ($d = .41$; Hoyt, 1996). However, Hoyt (1996) noted that the causal directionality of these relations has not been established. The meta-analysis also found that nonverbal cues (e.g., attentiveness, posture, eye contact), followed by verbal cues (e.g., use of psychological jargon) and reputational cues (e.g., framed diplomas), had the highest associations with credibility ratings. Unfortunately, since the early 1990s there has been very limited research on therapist credibility (Perrin, Heesacker, Pendley, & Smith, 2010).

Healing Setting

Frank and Frank (1991) hypothesized that the healing setting contributes to therapy outcomes in at least two ways: it provides a sense of safety and confidentiality, and strengthens the perception of the therapist as a healer, thereby indirectly increasing expectations of help.

According to theory of social influence (Strong, 1968), the setup of the therapist's office should provide positive reputational cues and contribute to the perceived credibility of the therapist (Hoyt, 1996). Out of the four factors proposed by Frank and Frank (1991), the empirical evidence regarding the healing setting is the weakest (Devlin, & Nasar, 2012). Some research has found that softness (i.e., dimmed lighting, comfortable surfaces and textures; Devlin, & Nasar, 2012; Miwa & Hanyu, 2006; Nasar & Devlin, 2011), personalization (personal mementos, certificates, awards, etc.; Devlin et al., 2009; Devlin, & Nasar, 2012; Heppner & Pew, 1977; Nasar & Devlin, 2011; Siegel & Sell, 1978), and neatness or formality the office (Amira & Abramowitz, 1979; Bloom, Weigel, & Trautt, 1977; Devlin, & Nasar, 2012; Nasar & Devlin, 2011) were related to positive ratings of therapists or interviewers. Furthermore Chaikin, Derlega, and Miller (1976) found that softness and personalization of the office were related to higher self-disclosure by study participants and increased ratings of comfort. Pressly and Heesacker (2001) reviewed the broader literature on environmental factors that could affect clients' experiences and suggested that practitioners should pay attention to room size, accessories (artwork, objects, plants, diplomas, awards), color, furniture, textures, tidiness, sitting distance from the client, lighting, smells, sounds, and temperature. However, no research has examined how the qualities of the healing settings are related to clients' perceptions of therapists or therapeutic outcomes in naturalistic settings.

Treatment Rationale and Associated Task/Rituals

According to Frank and Frank (1991, 2004), an imagination-catching treatment rationale is crucial for mobilization of hope. The rationale should provide a plausible explanation of the individual's symptoms and prescribe procedures for resolving them. Furthermore, the procedures should be credible to both therapist and client. Frank and Frank (1991) noted that therapeutic

rationales and techniques spring from particular cultural worldviews and maintain their plausibility by staying embedded in them. The empirical status of rationales is not nearly as important as their believability and the degree to which they make sense in light of clients' preexisting beliefs about the causes of their problems (Frank & Frank, 1991; Wampold & Imel, 2015). Frank and Frank (1991) note that specific tasks and procedures are important in therapy because they help maintain the therapeutic alliance, increase the therapist's influence, and provide clients with a face-saving way to abandon symptoms or complaints. Thinking along the same lines, Wampold & Imel (2015) argued that encouraging clients to engage in any sort of healthy activity, in or out of therapy (e.g., facing problems, exercising, interacting socially, dropping bad habits), should be beneficial because improvements in any one area of life can generalize to others.

Research on working alliance (reviewed earlier) indicates that credible treatment rationales and procedures are important, as agreement on therapy goals (e.g., client buys into therapist's conceptualization of her symptoms) and tasks (e.g., client likes the idea of completing thought records) are crucial aspects of the WA. A meta-analysis by Tryon and Winograd (2011) examined the importance of goal consensus specifically. They defined goal consensus as consisting of multiple components:

“(a) patient-therapist agreement on goals; (b) the extent to which a therapist explains the nature and expectations of therapy, and the patient's understanding of this information; (c) the extent to which goals are discussed, and the patient's belief that goals are clearly specified; (d) patient's commitment to goals; and (e) patient–therapist congruence on the origin of the patient's problem, and congruence (p.154) on who or what is responsible for solving the problem” (Tryon & Winograd, 2001, pp. 385–386).

In their meta-analysis, Tyron and Winograd (2011) found an impressive overall correlation of .34 (corresponding to a $d = .79$) between goal consensus and therapy outcomes, with homogeneous effect sizes across studies ($n = 15$).

Further evidence for the importance of the treatment rationale comes from meta-analyses on the effectiveness of culturally adapted vs. non-adapted treatments. An APA task force sponsored meta-analysis found an overall effect of $d = .46$ ($d = .27$ when corrected for publication bias) favoring treatments that have been adapted to clients' cultural backgrounds (Smith et al., 2011). Moderator analyses yielded several interesting findings. First, adapted interventions were significantly more effective when delivered to culturally homogeneous groups ($d = .51$ compared to non-adapted treatments) rather than when delivered to mixed groups ($d = .18$). Second, the number of dimensions across which the treatments were adapted correlated with effect sizes at $r = .28$ (the dimensions used for coding of studies included in the meta-analysis were: language, persons, metaphors, content, concepts, goals, methods, and context; Bernal & Sáez-Santiago, 2006). Finally, when eight different dimensions of adaptation were entered into a regression model, descriptions of therapeutic goals that explicitly matched clients' goals and use of metaphors/symbols that matched clients' worldviews uniquely predicted larger effect sizes (Smith et al., 2011).

A meta-analysis by Benish, Quintana and Wampold (2011) extended the findings of Smith et al. (2011) by examining how culturally adapted therapies fared specifically in comparison to bona fide psychotherapies (therapies based on psychological principles and designed to be therapeutic), as opposed to any control condition. They found an overall effect size of $d = .32$ ($n = 21$; $d = .21$ for secondary outcome measures), which is impressive given that differences between genuine psychotherapies tend to be close to zero (Wampold & Imel, 2015).

Benish et al., (2011) also found that treatments adapted to clients' "illness myths" (i.e., preexisting beliefs about symptoms, etiology, course of illness, consequences, and reasonable treatment options; Kleinman, Eisenberg, & Good, 2006) were more effective compared to non-adapted treatments ($d = .21$), and that this variable was the sole moderator of the difference in effect sizes between adapted and non-adapted therapies. A more recent meta-analysis (Hall, Ibaraki, Huang, Marti, & Stice, 2016) directly compared culturally adapted treatments to otherwise identical interventions that were not culturally adapted. Based on 9 studies, they found an overall medium effect of $g = .52$ (Hedges' g is a corrected version Cohen's d ; see McGrath, & Meyer, 2006).

Overall, the above results demonstrate the importance of providing compelling treatment rationales that are congruent with clients' worldviews. Additional, albeit less direct, support for the same idea comes from previously discussed meta-analyses, which found that treatments matched to different client characteristics (reactivity, coping style, preferences, and religion) resulted in better treatment outcomes (Beutler, Harwood, Michelson, et al., 2011; Beutler, Harwood, Kimpara, et al., 2011; Swift et al., 2011; Worthington et al., 2011).

Homework compliance. Research on client adherence to between-session activities gives some insight into the relative importance of treatment procedures and rituals in psychotherapy. Homework, either client- or therapist-initiated, is used across many treatment modalities, although perhaps most strongly advocated for by behavioural and cognitive-behavioural practitioners (Ronan & Kazantzis, 2006; Scheel, Hanson, & Razzhavaikina, 2004). Unsurprisingly, some of the best evidence for the value of homework comes from research on CBT. A recent meta-analysis on the relation between quantity of CBT homework completed by clients and therapy outcomes found a large average effect size ($g = .76$; $g = .66$ after correcting

for publication bias; $n = 15$; Kazantzis et al., 2016). Furthermore, the effect sizes tended to be higher when homework completion was rated by therapists or researchers (i.e., more objective measurement), as opposed to the clients. Although these results might be interpreted to indicate that engagement in specific tasks and procedures outside of therapy is therapeutic in and of itself, homework completion is often used as a measure of the collaboration between therapists and clients (an aspect of working alliance; Tyron & Winograd, 2011). Therefore, the degree to which homework completion contributes to therapeutic gains over and above working alliance is not clear.

Current Study

Frank and Frank's ideas have had a lasting impact in psychotherapy research. However, their model of common factors has not been tested directly. The purpose of the current study is to do just that: to measure the common factors proposed by Frank and Frank across diverse healing practices and use multi-group Structural Equation Modelling (SEM; Kline, 2016) to relate them to outcomes. Frank and Frank (1991, 2004) explicitly included complementary and alternative medicine approaches as part of their definition of psychotherapy, and described how their proposed therapeutic factors were manifest in these practices. Thus, this study examines therapeutic processes in conventional psychotherapy and in CAM practices. CAMs may be especially amenable to the study of common factors, as defined by Frank and Frank (1991), because they are experienced as beneficial by many people (Eisenberg et al., 2001) and their therapeutic effects appear to stem primarily from contextual and relationship factors (e.g., Vickers et al., 2012). Given the centrality of hope as a healing agent in Frank and Frank's theory, the current study also evaluates the extent to which their proposed common factors bring about therapeutic gains by eliciting hope.

By using a longitudinal design, measuring multiple common factors across a large number of treatments, and using multi-group SEM, the current study will add to the existing knowledge by:

1. Testing the relative contributions of Frank and Frank's factors to treatment outcomes.
2. Examining whether hope mediates the relationships between common therapeutic factors and outcomes.
3. Comparing the role of common therapeutic factors across psychotherapy and CAM treatments.
4. Estimating the degree of overlap between common factors.

I hypothesize that Frank and Frank's factors will consistently predict outcomes across treatment types, but will differ somewhat in their unique contributions to outcomes across the various treatments. Furthermore, I hypothesize that hope will mediate to some extent the relationships between Frank and Frank's common factors and the treatment outcomes. Finally, I expect that although the factors will share much variance in common, they will be empirically distinct (i.e., correlated at around .6 or lower).

Method

Participants and Procedures

Participants consisted of a convenience sample of 1948 US residents recruited from Amazon's Mechanical Turk (MTurk) and 445 students recruited from the psychology undergraduate pool at the University of Waterloo (2393 in total). Additionally, data from 480 MTurk participants who completed a follow-up survey (part II of the study) six to eight months later were used in the longitudinal analyses. Prior research has shown that US samples recruited through MTurk tend to be more diverse than student samples and usually provide good quality data (Paolacci & Chandler, 2014). MTurk participants were paid for their participation, while uWaterloo students received partial course credit. Figure 1 shows the flow of participants through the screening procedures and various parts of the study.

Inclusion and exclusion criteria. Individuals had to meet two conditions in order to participate in the study. One, have their first one-on-one appointment with a health practitioner, healer, or instructor of some sort in the past week (for MTurk sample), or in the past two months (for uWaterloo student sample, to increase the pool of potential participants). Two, seek treatment for a specific physical or mental health issue (rather than visit the practitioner for general health maintenance). Individuals were recruited early in treatment so that symptom severity could be measured prior to the unfolding of the therapeutic effects. Participants completed all questionnaires and open-ended questions online.

Data screening procedures. The resulting data were screened (e.g., for nonsensical responses) and cases with over 70% of data missing were excluded. The 2393 participants who completed part I of the study and passed the screening were divided into ten groups, based on the type of practitioner that they saw and the type of health problem for which they sought treatment.

The analyses described in the current paper were based on five of the ten groups (total $n = 1693$), namely, clients of: psychotherapists treating psychological issues ($n = 686$; PsyPsych), various CAM practitioners treating psychological issues ($n = 155$; PsyCAM), chiropractors treating pain ($n = 518$; PainChir), massage therapists treating pain ($n = 234$; PainMass), and acupuncturists treating pain ($n = 100$; PainAcu). These groups were chosen because they were large enough to allow for testing of the proposed SEM model, and because they were most relevant to Frank and Frank's theory. More specifically, individuals treated by psychiatrists for psychological issues were excluded due to small group size ($n = 73$), as were individuals seen by yoga instructors ($n = 45$) and various CAM practitioners ($n = 68$) for pain related issues. A group of individuals receiving treatment from dietitians for weight and gastrointestinal issues ($n = 104$) were excluded because dieticians typically base their practice on empirical evidence of non-psychologically mediated mechanisms of therapeutic action (hence, smaller common factor effects were expected). Finally, a group of individuals receiving treatment from various CAM practitioners for physical health issues ($n = 148$) was excluded due to extreme heterogeneity of the types of practitioners and the health issues in the group. Table 1 and 2 show the demographics of the five groups included in the cross-sectional analyses. Tables 3 and 4 display the compositions of each group with respect to the types of practitioners and treated health issues.

Out of the 1973 people who were recruited through MTurk, 1794 intended to continue seeing their health practitioners and consented to being contacted for a follow-up questionnaire. The undergraduate sample was not asked to complete a follow-up due to low expected response rate (e.g., only 48% agreed to be contacted). Altogether, 556 people (33% of 1705 who were successfully emailed) completed the second online portion of the study, approximately 6 to 8 months ($M = 219$ days; $SD = 26$) following the first part. The data were screened for nonsensical

responses and mismatches between the main treatment issues reported in parts one of the two of the study. Subsequently, the participants were divided into two groups: PsyPsych ($n = 138$) and PainChir ($n = 134$). Other groups were too small to be included in the longitudinal model. Table 5 shows demographics of the PsyPsych and PainChir groups used in the longitudinal analyses.

Measures

Barrett-Lennard Relationship Inventory (BLRI). Empathy, positive regard, and genuineness were measured using the 40-item version of the BLRI (Barrett-Lennard, 2015), which was designed to measure the Rogerian relationship factors. BLRI consists of 4 scales, three of which were used in the current study: empathy (e.g. ... usually senses or realizes what I am feeling), level of positive regard (e.g., ... cares for me), and congruence (e.g., I feel that ... is genuine with me). Each scale has 10 items, rated on a 6-point Likert scale ranging from -3 (strongly disagree) to $+3$ (strongly agree). Total scores for each scale were calculated by reverse scoring the items that assessed practitioners' negative behaviours (e.g., ... is indifferent to me). Various versions of the BLRI have been used extensively over the last 50 years in psychotherapy and relationship research, and the scales have generally exhibited good psychometric properties across diverse samples (Barrett-Lennard, 2015). Notably, the three Rogerian conditions have been shown to be highly interdependent (Barrett-Lennard, 2015), with correlations between scales ranging from .57 to .67 (Ganley, 1989). Internal reliability coefficients (Cronbach's alphas) for BLRI and most other scales are reported in the results section below.

Counselor Rating Form—Short (CRF-S). Perceived therapist credibility was measured using CRF-S (Corrigan & Schmidt, 1983). The CRF-S is a 12-item instrument with good psychometric properties that has been frequently used in research (Hoyt, 1996). It consists of three subscales (4 items each): attractiveness (e.g., “my counselor is friendly”), expertness (e.g.,

“my counselor is experienced”), and trustworthiness (e.g., “my counselor is trustworthy”). Items were reworded such that “my counselor” was replaced with initials of practitioners (as reported by participants). Each item was rated on a 7-point Likert scale ranging from “strongly disagree” to “strongly agree”. Previous research has indicated that the structure of the CRF-S is best described with a two-step hierarchical model: three subscale-specific factors and one overarching credibility factor (Tracey, Glidden, & Kokotovic, 1988).

Healing setting. Qualities of the healing setting were measured using three items that were created for this study: I feel comfortable in the place where I have my appointments with ... ; I feel safe in the place where I have my appointments with ... ; The place where I have my appointments with ... looks professional. Each item was rated on a 7-point scale (“strongly disagree” to “strongly agree”). The items were written to reflect the two ways in which Frank and Frank believed the healing setting contributed to therapy outcomes: by bolstering the practitioner’s status as a healer, and by creating a safe space.

Treatment rationale. Persuasiveness of the treatment rationale and recommended treatment procedures was measured using 12 items (5 negatively worded) that were created for this study (e.g., ... explained to me what is causing the issue for which I sought help; I have a clear understanding of how the treatment that ... recommended will help my problem; I have doubts about ... ’s explanation for my problem; see Appendix A for the full scale). Each item was rated on a 7-point scale (“strongly disagree” to “strongly agree”).

Hope and expectations of improvement. A scale of 15 items (4 reverse scored) was created to measure hope and positive expectations of improvement across diverse treatments (see Appendix A for the full scale). All items were rated on a 7-point scale (“strongly disagree” to “strongly agree”). Eight of the items were adopted from the Hope for Change Through

Counselling Scale (HCCS; Bartholomew, Scheel, & Cole, 2015), and seven items were created based on face validity for the purposes of this study. HCCS is a 19-item scale based on Snyder's (2002) three-part theory of hope. Snyder argued that people feel hopeful when they are able to specify their goals, know the steps to achieving those goals, and feel capable of following the steps. HCCS consists of three subscales that measure each of these aspects: goals, pathways, and agency. Factor analysis has revealed that the 19 HCCT items form one general factor with two subfactors (two-step hierarchical model). Pathway and agency items load onto one subfactor while items related to clarity of goals load onto another (Bartholomew et al., 2015). Eight of the 14 items from pathway and agency subscales were chosen for the current study because they had the highest subfactor loadings (based on Bartholomew et al., 2015) and because they could be adopted for the use across diverse treatments (e.g., when I feel stuck, I am confident that ... can help motivate me to reach my goals; seeing ... helps me identify ways to improve my well-being). HCCS Goal items were psychotherapy-specific and therefore not included (e.g., I know what I would like to accomplish in counselling). The seven new items were created to measure client confidence in the helpfulness of the treatment and the practitioner (e.g., I was confident that ... could help me get better), and degree of perceived practitioner helpfulness (e.g., ... conveyed his/her conviction that my problems were solvable).

Outcomes and severity of treatment issue. Given the need for a generic measure that would adequately capture treatment outcomes in relation to diverse health issues, outcomes in part one of the study were measured using a single item: "please indicate how much treatment with ... has helped with the main issue for which you sought help." The item was rated on a 5-point Likert scale ranging from "not at all helpful" to "extremely helpful," and was used as the indicator of early-treatment improvement in the cross-sectional structural equation model

(described below). Severity of the issues for which individuals sought treatment were measured using three items. Participants were asked to rate how much the issues 1) bothered them, 2) distressed them, and 3) interfered with their lives, over the past month (rated on a scale of 1 to 10). The same items were administered during part two of the study and used as a measure of treatment outcomes in the longitudinal analysis model.

Participants also rated their satisfaction with treatment using two items (“Overall, how satisfied are you with your practitioner?” and “Overall, how satisfied are you with the treatment you received from your practitioner?”), which were rated on an 11-point scale, ranging from “not at all satisfied” to “completely satisfied.” However, satisfaction ratings were not included in the models discussed in the current paper as that would require the estimation of more path coefficients than the sample sizes of some of the groups allowed.

Well-being, psychological symptoms, and somatic symptoms. Three instruments were used to assess psychological symptoms, somatic symptoms and overall well-being. These scales were used to describe the characteristics of the analyzed treatment groups.

General Population Clinical Outcomes in Routine Evaluation scale (GP-CORE). GP-CORE (Sinclair, Barkham, Evans, Connell, & Audin, 2005) is a 14-item version of the 34-item CORE-OM scale (Barkham, Gilbert, Connell, Marshall, & Twigg, 2005; Barkham et al., 2001), adapted for use in the general population (correlates at .90 to .95 with CORE-OM; Sinclair et al., 2005), and used to measure overall well-being, symptoms (anxiety, depression, physical problems), and general life functioning. GP-CORE items are scored 0 to 4. The scale has been extensively validated using large UK student samples and has good psychometric properties (Cronbach’s alphas \geq .80 across populations; Sinclair et al., 2005).

Outcome Rating Scale (ORS). Developed by Miller, Duncan, Brown, Sparks, and Claud (2003), ORS is a 4-item instrument that assesses well-being across four dimensions: personal, interpersonal (family and close relationships), social (work, school, friendships), and overall. The scale uses a visual analogue format of four 10-cm lines. Participants make a mark on each line indicating how well they are doing on each dimension (each rated 1 to 10, and added up to a total of 40). Research has indicated that the ORS has good psychometric properties, with Cronbach alphas typically greater than .80 (DeSantis, Jackson, Duncan, & Reese, 2017). ORS has been designed for tracking of outcomes in psychotherapy session to session, and has a clinical cut off score of 25 (Duncan, 2012).

Patient Health Questionnaire: Somatic Symptom Scale (PHQ-15). PHQ-15 was used as a measure of 15 somatic complaints that account for more than 90% of symptoms reported in outpatient settings (with the exception of upper respiratory issues; Kroenke, Spitzer, & Williams, 2002). Each of the 15 symptoms was rated on a 0 (“not at all) to 2 (“bothered a lot) scale, with scores added up to a total of 30. Cutoff points of 5, 10, and 15 represent symptom severity thresholds (mild, moderate, severe; Kroenke et al., 2002).

Additional measures. All participants completed a number of other questionnaire measures, including a measure of working alliance (Working Alliance Inventory, Short Revised version; Hatcher & Gillaspy, 2006). However, the working alliance scale was not used in the current study because many of the items were not applicable to non-psychotherapy treatments and because working alliance is a broad concept that encompasses aspects of several of the Frank and Frank’s factors simultaneously.

Analytic Approach

Overview of the research model. The research model hypothesized that four factors, namely, the Rogerian relationship factor, perceived practitioner credibility, quality of the healing setting, and persuasiveness of the treatment rationale, predict improvements early in treatment (cross-sectional model) and six to eight months later (longitudinal model). Furthermore, hope was hypothesized to mediate the relationships between the four factors and the treatment outcomes. Thus, the research model included four exogenous latent variables (factors not predicted by any other variable in the model), an endogenous outcome variable (predicted by the four factors), and one mediator (hope; endogenous variable). The general pattern of relationships between common factors and treatment outcomes was expected to hold across each of the five treatment groups, with some variability. Given that the treatment groups differed on the reported levels of psychological symptoms, somatic symptoms, and well-being (see Table 1), a control exogenous latent factor called “Baseline Severity” was included in the cross-sectional and longitudinal models. Baseline severity measured the degree to which the treatment issues were bothering, distressing, and impeding participants. Due to the limited sample sizes of some of the groups, all measurement models were constrained across treatment groups (i.e., unstandardized factor loadings were constant across groups), as were the covariances between the exogenous latent factors. The path coefficients between exogenous latent factors and endogenous variables were estimated separately for each treatment group. The full cross-sectional and longitudinal structural models (without measurement models) are shown in Figures 2 and 3, respectively.

Statistical procedures. The first step of SEM involves the correct specification of measurement models for the constructs of interest and subsequent examination of their fit with confirmatory factor analysis (CFA; Kline, 2016). The full sample ($n = 1693$) was used for the testing of each measurement model, as the measurement models were constrained across groups

in the final multi-group analyses. Measurement models for the Rogerian, credibility, and healing setting factors were not tested for fit because they were just-identified (three indicators each with no constraints and uncorrelated error terms). Instead, scale reliabilities were measured using Cronbach's alphas (based on the full sample). All SEM models were tested using the full information maximum likelihood (FIML) method in Mplus7 software (Muthén & Muthén, 2012). FIML allows data from all cases to be included regardless of missing ones (~1% of data was missing). Fit of the models was evaluated using the comparative fit index (CFI) > .95, root mean square error of approximation (RMSEA) < .06 with a 90% confidence interval (CI) that includes .05, and standardized root-mean-square residual (SRMR) < .08 (Schermelleh-Engel, Moosbrugger, & Müller, 2003). Additionally, nested models were compared using Bayesian Information Criterion (BIC; lower BIC values indicate better fit), with a difference > 10 indicating very strong evidence of better fit (Kass & Raftery, 1995). The chi-square test of model fit was not used. Chi-square test has a high rate of Type I error in larger sample sizes, and is therefore not recommended for samples greater than 400 (Kenny, 2015; Kline, 2016). The indirect function of Mplus7 was used to test mediation effects. More specifically, confidence intervals for indirect, direct, and total effects were calculated using the bias-corrected bootstrap method, with 2000 iterations (Shrout & Bolger, 2002; Fritz & MacKinnon, 2007). The bias-corrected bootstrap procedure is considered one of the best methods for minimizing Type I and Type II errors when testing mediation effects (MacKinnon, Lockwood, & Williams, 2004; Fritz & MacKinnon, 2007). Throughout this paper, standardized parameter estimates are reported with 95% confidence intervals.

Results

Differences in Characteristics Between Treatment Groups

I used one-way ANOVAs followed by pair wise comparisons with Tukey HSD tests to assess between-group differences on continuous demographic variables. Table 1 presents the results (with 5% significance level). I also used Pearson's chi-square tests to assess group differences on categorical demographic variables. If the Pearson's chi-square test across the five groups yielded significant results, I conducted pair wise comparisons with additional Pearson chi-square tests. The significance for these pair wise comparisons was set at alpha of $p < .01$ to minimize Type I errors. The results are presented in Table 2. The treatment groups differed substantially on many demographic variables.

Group Differences Between Follow-up Completers and Non-Completers

Table 5 presents an overview of demographic differences between those who completed part one of the study only, and those who completed both parts. Participants in PsyPsych group who completed part two differed from those who did not in three respects: age ($t(687) = 7.02, p < .001$), college or university degree attainment ($\chi^2(1, N = 686) = 7.52, p = .006$), and ethnicity ($\chi^2(4, N = 678) = 9.84, p = .04$). Likewise, follow-up completers in the PainChir group differed from non-completers in age ($t(519) = 6.27, p < .001$), gender ($\chi^2(1, N = 514) = 5.97, p = .015$), GP-CORE scores ($t(520) = -2.17, p = .03$), and severity of treatment issues ($t(518) = 2.72, p = .007$). Follow-up completers did not differ from non-completers based on other characteristics, including their levels of satisfaction with treatment and their ratings of improvement.

Constructing and Testing Measurement Models

Rogierian factors. Internal reliabilities for the empathy ($\alpha = .73$), level of regard ($\alpha = .71$), and congruence ($\alpha = .63$) subscales of the BLRI were lower than expected. Inspection of

individual scale items revealed that while responses on positively worded items were normally distributed, response patterns on the reverse scored items were bi-modally distributed, such that roughly 1/3 of participants answered “strongly agree” for each item and 1/3 answered “strongly disagree” (see Figure 4 for an example). This pattern of results, in conjunction with positive written responses from many participants (e.g., “I really liked my practitioner”) who gave extreme negative ratings on the reverse scored items suggested that a large portion of participants mistakenly indicated the opposite of what they meant on the reverse scored items. Indeed, previous research has found that reverse worded items can contribute to inattention and confusion on the part of the participants (e.g., Van Sonderen, Sanderman, & Coyne, 2013). Furthermore, even a small number of inattentive responses (e.g., 10% of participants) can be problematic (Woods, 2006). With these considerations in mind, the scale totals were recalculated using only positively worded items. One additional item (“... feels affection for me”) was excluded from the positive regard scale as it was poorly correlated with other items ($r = .05 - .22$). The resulting subscales had 5 items each ($\alpha = .76$ for empathy, $\alpha = .79$ for positive regard, and $\alpha = .62$ for genuineness) with the full-scale $\alpha = .87$. The three subscale scores served as indicators in the measurement model for the Rogerian factor. Factor loadings and description of indicators for all measurement models are available in Appendix B.

Credibility, healing setting, and severity factors. Attractiveness ($\alpha = .90$), expertness ($\alpha = .89$), and trustworthiness ($\alpha = .90$) subscale scores of the CRF-S (full-scale $\alpha = .95$) served as indicators for the credibility latent factor. The indicators for baseline treatment issue severity and follow-up treatment issue severity factors consisted of the same three items measured at time one ($\alpha = .87$) and time two ($\alpha = .95$). Finally, three items ($\alpha = .82$) were used as indicators for the healing setting factor.

Treatment rationale. Exploratory Structural Equation Modeling (ESEM) was used to examine the dimensionality of the 12 treatment rationale items (using Mplus7). ESEM is a form of exploratory factor analysis that uses oblique geomin rotation and also provides indices of model fit typically available only in CFA (Marsh, Morin, Parker, & Kaur, 2014). As long as the RMSEA and CFI indicators were good, the models containing between 1 to 6 factors were compared using BIC. ESEM indicated that the 5-factor model had the best fit (BIC: 58375), followed by the 4-factor (BIC: 58387) and the 6-factor (BIC: 58410) models. However, three of the factors in the 5-factor model had no substantial factor loadings (all below .45). Furthermore, examination of the 4, 5, and 6 factor models revealed that reverse-scored items consistently formed a separate factor (see Appendix A for factor loadings in the 5-factor model). This factor was interpreted as a methodological artifact, rather than representing a substantively different aspect of treatment rationale persuasiveness (as the content of the negatively worded items was varied). Hence, negatively worded items were excluded from further analyses. Remaining seven items were subjected to ESEM, with a single-factor solution emerging as the sole possibility (the 2-factor solution failed to converge and the 3-factor model produced factor loadings > 1.0). However, the one-factor solution had relatively poor fit according to RMSEA (CFI = .975, SRMR = .023, RMSEA = .094, 90% CI [.083, .105]). The modification indices (available in Mplus7) suggested that the lack of fit was due to one item's error term covarying with error terms of most other items ("... explained to me what is causing the issue for which I sought treatment"), possibly because it was causally related to other items (e.g., "I have a clear understanding of how the treatment that ... recommended will help my problem"). Rather than modeling numerous covariances between error terms, and thus significantly increasing the complexity of the measurement model, the single item was excluded from further consideration.

The resulting 6-indicator model had a good fit (CFI = .994, SRMR = .012, RMSEA = .053, 90% CI [.040, .068]), with the scale demonstrating a Cronbach's alpha of .92.

Hope. The 15-item scale created for this study was subjected to ESEM and models with 1 to 6 factors were compared. The 5-factor model had best fit based on BIC values (BIC: 70442; 6-factor BIC: 70462; 4-factor BIC: 70562; see Appendix A for factor loadings in the 5-factor model). Additionally, both 4 and 6 factor solutions resulted in factor loadings > 1.0 . Similar to the treatment rationale reverse-scored items, the four negatively worded hope items formed a separate methodological-artifact factor, and were thus excluded from further analyses. The remaining 11 items were subjected to additional ESEM. Unsurprisingly, a 4-factor structure demonstrated best fit (BIC: 43881; see Appendix A for the factor loadings), with 2 to 3 items having high loadings on each dimension, and one item loading poorly on all factors (3-factor model BIC: 43987; 5-factor model BIC: 43904 and one factor loading > 1.0). The one item was excluded from further analyses. The four-factor structure afforded a sensible interpretation based on item content. The factors described 1) the degree of conviction that the treatment will help ($\alpha = .90$), 2) perception of multiple pathways to solving problems ($\alpha = .74$), 3) excitement and motivation ($\alpha = .85$), and 4) practitioner expectations of client improvement ($\alpha = .81$). The purpose of the current study was to examine the relationships between Frank and Frank's constructs (represented with latent factors in the structural model) rather than to examine intricacies of the measurement models. Thus, the items that loaded onto each of the four factors were combined into four parcels (like subscale scores) to be used as indicators of the hope factor in the full SEM model (Little, Cunningham, Shahar, & Widaman, 2002). The 4-indicator measurement model had a good fit (CFI = .999, SRMR = .005, RMSEA = .029, 90% CI [.00,

.063]). Appendix B shows the standardized factor loadings of all indicators on their respective latent variables.

Overlap Between Common Factors

To test the degree of overlap between Frank and Frank's common factors, four multi-group SEM models were constructed in which each common factor was predicted by the other three (see Figures 5 to 8). The measurement models were constrained across treatment groups, but other parameters were left free to vary (covariances between latent factors, structural paths between exogenous and endogenous latent variables, and means). All the models had the same acceptable fit indicators (CFI = .972, SRMR = .050, RMSEA = .055, 90% CI [.050, .060]). Table 6 shows the R^2 values (% of variance explained) for each common factor. Results indicated that the factors tended to overlap substantially across treatment groups, with some variability. For example, treatment rationale was more independent of other factors in the PainMass group ($R^2 = .34$). However, all R^2 values ranged between .34 and .64, suggesting that the factors remained relatively independent of each other across groups.

Cross-Sectional Multi-Group Model

The full cross-sectional model was tested for fit (see Figure 2 for the structural model; see Appendix C for an example of the full model with estimates for the PsyPsych treatment group and an explanation of the different aspects of the model). Although the initial fit was acceptable (CFI = .956, ARMOR = .062, RMSEA = .054, 90% CI [.051, .057]), modification indices suggested that model fit could be improved if intercepts (means) for expertness and trustworthiness indicators of credibility factor, and intercepts of confidence and motivation (indicators of hope factor) were allowed to vary across groups. Given that current analysis was not aimed at examining the means of latent factors, the four intercepts were allowed to vary,

leading to an improvement in model fit (CFI = .963, SRMR = .061, RMSEA = .050, 90% CI [.047, .053]). Thus, a model with constrained factor loadings (fixed measurement models), fixed covariances between latent factors, but unconstrained structural paths, appeared to fit the data reasonably well. Tables 7 to 11 show the correlations between the five exogenous latent factors for each treatment group (the correlations are similar given that the covariances were constrained). Hope correlated with treatment issue severity at .05 in the PsyCAM and PainMass groups, at .06 in the PsyPsych and PainChir groups, and at .09 in the PainAcu group (all correlations were at trend-level significance). The cross-sectional model predicted 34% of variance in rated outcomes (based on R^2 values) in the PsyPsych group, and 33%, 30%, 28%, and 25% of variance in the PsyCAM, PainChir, PainMass, and PainAcu groups, respectively. The R^2 values were significant at $p < .001$ for all groups except PainAcu ($p = .002$).

Estimates of the path coefficients, direct, indirect, and total effects are presented in Tables 12 and 13. Examination of structural path coefficients indicated that all the path estimates for the PainAcu group had very large 95% confidence intervals, all of which included zeros (e.g., total effect of the Rogerian factor on perceived improvement was $\beta = .06$, 95% CI [-.028, 0.49]). This was likely due to the limited sample size of the PainAcu group. Therefore, results from this group are not considered further. Across the remaining groups, baseline treatment issue severity was weakly predictive of perceived early-treatment outcomes in PsyPsych ($\beta = -.10$, 95% CI [-.17, -.04]), PainChir ($\beta = -.08$, 95% CI [-.17, -.001]), and PainMass ($\beta = -.16$, 95% CI [-.28, -.05]) groups, but not the PsyCAM group ($\beta = .07$, 95% CI [-.10, .22]). Hope, however, was a consistently strong predictor of perceived early improvement, with point estimates ranging from .31 to .56 across groups. Hope, in turn, was strongly predicted by treatment rationale ($\beta = .43 - .60$) across all groups. The coefficients for the Rogerian factor predicting hope ranged from .10 -

.23 across groups, but the estimate was not statistically significant in the PsyCAM group, likely due to a relatively smaller sample size ($\beta = .19$, 95% CI [-.02, .41]). Coefficients for the healing setting predicting hope ranged from $\beta = .11$ to .27. However, the estimates were statistically significant only in the PsyPsych ($\beta = .12$, 95% CI [.03, .21]) and PainMass ($\beta = .27$, 95% CI [.11, .43]) groups. Perceived practitioner credibility emerged as a significant predictor of hope in the PsyPsych ($\beta = .28$, 95% CI [.20, .37]) and PainChir ($\beta = .17$, 95% CI [.06, .28]) groups.

Total Effects. The total effect (see Table 13) refers to the sum of the direct (not mediated by hope) and indirect (mediated through hope) effects, or the total unique contribution of a given factor to the prediction of the outcome variable. Rogerian practitioner qualities uniquely contributed to perceived improvement early in treatment in the PsyPsych group ($\beta = .14$, 95% CI [.04, .24]), and showed a similar albeit marginally significant effect in the PainChir group ($\beta = .12$, 95% CI [-.006, .24]). Furthermore, the Rogerian factor appeared to considerably affect improvement in the PsyCAM group ($\beta = .43$, 95% CI [.14, .72]). Credibility was a good unique predictor of perceived improvement in the PsyPsych ($\beta = .17$, 95% CI [.05, .28]) and PainChir ($\beta = .33$, 95% CI [.19, .48]) groups, with a comparable, but nonsignificant, coefficient in the PainMass group ($\beta = .21$, 95% CI [-.03, .46]). Quality of the healing setting emerged as a significant predictor in the PainChir group, surprisingly, with a negative coefficient ($\beta = -.20$, 95% CI [.20, .37]). Treatment rationale showed relatively large total effects in the PsyPsych ($\beta = .39$, 95% CI [.28, .50]), PainChir ($\beta = .25$, 95% CI [.08, .41]), and PainMass ($\beta = .37$, 95% CI [.18, .56]) groups.

Indirect Effects. The indirect effect refers to the impact of a factor on outcomes through the mediating variable. Although the point estimate for the indirect effect of the Rogerian factor through hope was consistent across groups ($\beta = .05 - .09$), it was only significant in the

PsyPsych group ($\beta = .05$, 95% CI [.01, .09]), most likely due to increased sample size. Similarly, although comparable across groups ($\beta = .06 - .11$), the indirect effect for the healing setting was significant only in the PsyPsych group ($\beta = .06$, 95% CI [.004, .11]). Effects of credibility were mediated by hope in the PsyPsych ($\beta = .14$, 95% CI [.07, .21]) and PainChir ($\beta = .10$, 95% CI [.02, .17]) groups. Finally, treatment rationale was significantly mediated by hope in PsyPsych ($\beta = .25$, 95% CI [.14, .36]), PainChir ($\beta = .36$, 95% CI [.17, .50]), and PainMass ($\beta = .20$, 95% CI [.003, .39]) groups, with a smaller and nonsignificant coefficient in the PsyCAM group ($\beta = .13$, 95% CI [-.05, .31]).

Direct Effects. No consistent patterns emerged across groups regarding the direct contributions of the exogenous latent factors to treatment outcomes (unmediated by hope). However, three direct effects were statistically significant. The Rogerian factor had a sizable direct effect on outcomes in the PsyCAM group ($\beta = .37$, 95% CI [.07, .68]). Furthermore, credibility ($\beta = .24$, 95% CI [.08, .39]) and healing setting ($\beta = -.27$, 95% CI [-.43, .10]) had significant direct effects on treatment outcomes in the PainChir group. Finally, the Rogerian factor had a marginally significant direct effect in the PsyPsych group ($\beta = .09$, 95% CI [-.007, .18]).

Longitudinal Multi-Group Model

The longitudinal model was identical to the cross-sectional model, with a few exceptions (see Figure 3). The single item outcome variable was replaced with a latent outcome variable, called “follow-up severity” (same as baseline severity, but measured at time two). Furthermore, due to the reduced sample sizes available for the longitudinal model, only two groups were used in the analysis: PsyPsych and PainChir. The FIML method allowed for some parts of the model to be estimated using the full sample ($n = 1178$) while the other parts were estimated only from

participants who completed both parts of the study. More specifically, the measurement models, and correlations between exogenous latent variables were estimated with 1178 participants; structural paths from the exogenous factors to hope were estimated using 664 (PsyPsych) and 506 (PainChir) cases, while the structural paths from exogenous latent variables, and hope, to outcomes were estimated based on 138 people in the PsyPsych group and 134 people in the PainChir group. Given the relatively small sample sizes used to calculate the latter pathways, the estimates should be treated with caution. The longitudinal model demonstrated good fit (CFI = .97, RMSEA = .042, 90% CI [.039, .046]). The model predicted 18% ($p = .015$) of outcome variance in the PsyPsych group, and 21% ($p = .011$) of variance in the PainChir group.

The structural path coefficients leading to hope, presented in Table 14, remained essentially unchanged from the cross-sectional model (as almost identical samples were used to calculate these effects in both models). However, estimates of path coefficients from exogenous latent variables, and hope, to outcomes (see Tables 14 and 15) differed from cross-sectional results. Hope remained as a predictor of outcomes in the PsyPsych group ($\beta = -.47, [-.93, -.03]$; the negative value indicates that when hope increases, follow-up severity tends to decrease). Unsurprisingly, baseline severity ratings predicted follow-up severity ratings as well ($\beta = .37, [.16, .58]$). No total or direct effects reached statistical significance. However, credibility ($\beta = -.14, [-.27, -.001]$) and treatment rationale ($\beta = -.25, [-.49, -.007]$) had indirect effects (through hope) on outcomes. Regarding the PainChir group, hope was not predictive of long-term outcomes ($\beta = .34, [-.08, .75]$), with the coefficient pointing in the opposite direction of what was expected. Instead, treatment outcomes six to eight months later were predicted directly by the quality of the treatment rationale ($\beta = -.48, [-.83, -.13]$), the Rogerian factor ($\beta = -.24, [-.46, -.03]$) and baseline ratings of problem severity ($\beta = .31, [.13, .50]$). The total effect was

significant for treatment rationale ($\beta = -.28, [-.56, -.005]$) and marginally significant for the Rogerian factor ($\beta = -.20, [-.42, .006]$).

Discussion

Frank and Frank (1991) described four common therapeutic factors that they believed were shared across diverse healing practices, namely, 1) an emotionally charged confiding relationship with a healer, 2) a healing setting, 3) a cogent treatment rationale that prescribes certain procedures, and 4) mastery-promoting therapeutic actions that engage clients in the process of treatment. These factors were presumed to be potent, in part, because they inspire hope in help-seeking people who are otherwise demoralized. Decades of research have provided strong evidence for the therapeutic relevance of all of Frank and Frank's common factors (Wampold & Imel, 2015), with the exception of the healing setting. However, the factors typically have not been studied together. Neither have they been linked to the development of positive expectations and hope, or examined extensively in treatments outside of psychotherapy. The purpose of the current research was to test Frank and Frank's model of common factors directly in the context of psychotherapy and CAM treatments. CAM practices appeared as good candidates for testing of Frank and Frank's theory given that these healing approaches generally lack strong empirical evidence for their efficacy over and above comparable placebos, and are therefore likely to derive their therapeutic power primarily through contextual and relationship factors.

In the present study, I used self-report questionnaires to measure two aspects of the Frank and Frank's confiding relationship with a healing person: the Rogerian practitioner qualities (empathy, care, and genuineness) and perceived practitioner credibility (attractiveness, expertness, and trustworthiness). Furthermore, participants reported on the qualities of the healing setting (safety, comfort, and professional appearance), the persuasiveness of the explanations and recommendations provided by their practitioners, and how hopeful they were

about the treatment. Using multi-group SEM, I assessed the therapeutic importance of these factors across five groups of participants, whose practitioners were either 1) psychotherapists treating psychological issues (mainly anxiety and depression), 2) various CAM practitioners (yoga instructors, acupuncturists, meditation instructors, spiritual counselors, etc.) treating psychological issues (mainly anxiety and depression), or 3) chiropractors, 4) massage therapists, and 5) acupuncturists helping address pain-related issues. Unfortunately, accurate estimates could not be calculated for the acupuncture group due to the small sample size. Hence, the results for this group were not discussed.

The remaining four treatment groups differed substantially on demographic characteristics. Previous research has found that CAM-users are more likely to be female, middle-aged, have greater disposable income, and higher educational attainment than the general population (Bishop & Lewith, 2010; Lorenc, Ilan-Clarke, Robinson, & Blair, 2009). In the current study, demographics of the psychotherapy group did not differ substantially from the other three groups in gender, education, and ethnic composition. However, compared to the psychotherapy group, individuals receiving chiropractic treatment were older (by 3.2 years on average) and, like those in the massage therapy group, had significantly higher incomes. The four groups differed considerably on all health and well-being indicators. More specifically, the psychotherapy group had the worst overall indicators of well-being, life functioning, and symptom severity, with second-worst scores on the same indicators in the PsyCAM group. Furthermore, individuals undergoing psychotherapy reported less early-treatment improvement compared to other groups and less treatment satisfaction than those in pain-issues groups. On the other hand, the chiropractic and massage therapy groups were quite similar, with one exception: those receiving massage had complaints of lower severity compared to all other groups. The

relatively higher health and well-being scores in the chiropractic and massage therapy groups were consistent with the findings from a large national US survey on the use of CAMs for back pain, in which 88% of participants reported good general health (Kanodia, Legedza, Davis, Eisenberg, & Phillips, 2010). Given these findings, I expected that while Frank and Frank's common factors would be relevant across treatments, there would be some variability attributable to the group differences in participant characteristics.

In line with my hypotheses, the estimated SEM model predicted a substantial amount of variance in early-treatment outcome ratings across all groups, with the highest percentage of variance accounted for in the psychotherapy group. Thus, the factors described by Frank and Frank indeed appeared to be shared across diverse healing approaches. These findings are consistent with the research on practices for improving placebo responses in clinical settings, which include explaining how treatments work and how they benefit the client, requiring clients to follow specific procedures or rituals as part of treatment, warm and empathetic bedside manner, and development of trust (Barrett et al., 2006; Bystad, Bystad, & Wynn, 2015). Notably, the analyzed cross-sectional model had highest predictive power in the group that also had the highest average levels of distress, as indicated by the ratings of treatment issue severity, overall well-being, and psychological and somatic symptoms. In fact, the vast majority of individuals receiving psychotherapy were above the clinical cut-off on the Outcome Rating Scale, which is used as a general outcome rating scale in routine clinical practice (Duncan, 2012). These findings are consistent with the notion that the placebo effect is stronger when individuals strongly desire whatever the treatment purports to provide (Price et al., 2008), and support Frank and Frank's hypothesis that their common factors are especially pertinent to demoralized clients.

Because many common therapeutic factors exist and because their empirical and theoretical boundaries are not clearly defined (Grencavage & Norcross, 1990), researchers face challenges in differentiating between them when conducting research. Thus, before exploring the unique contribution of each factor to therapeutic outcomes, I examined the degree of overlap between the measured common factors in each treatment group. As was expected, the factors were interdependent to a substantial degree, but also sufficiently distinct to warrant their treatment as separate entities. More specifically, no more than 64% of variance in any given common factor was predicted by the three other factors (excluding hope), and the overlap between factors was relatively consistent across groups. One notable exception was the treatment rationale in the massage therapist treatment group, which was more weakly associated with other factors. This may be because massage therapists are not typically expected to provide explanations for clients' problems. Overall, the findings suggested that each of the measured common factors has the potential to independently contribute to the development of hope and therapeutic outcomes.

Psychotherapy Treatment Group

Frank and Frank hypothesized that clients' hope and expectations played an integral role in psychotherapy. Indeed, the cross-sectional model results closely conformed to Frank and Frank's theory. Hope was a very strong predictor of early-treatment outcomes in the psychotherapy treatment group. Furthermore, all common factors independently predicted hope, with treatment rationale and practitioner credibility contributing the most, thus supporting Frank and Frank's claims that persuasive explanations and perceptions of practitioners as competent and culturally legitimate healers are crucial for mobilizing hope in clients. These findings provide tentative support for research on the importance of adapting psychotherapies to the

clients' cultures, including pairing them with therapists from similar cultural backgrounds and crafting explanations to match their "illness myths" (Benish et al., 2011; Smith et al., 2011).

The direct effects of common factors on perceived improvement in the psychotherapy group were small and nonsignificant, suggesting that the common factors contributed to outcomes primarily by eliciting hope. The only exception to this general trend was the Rogerian factor, which showed a larger direct (unmediated by hope) rather than indirect effect (although the direct effect was only marginally significant), suggesting that the genuine, empathetic, and caring relationship with a practitioner can be healing in and of itself. This finding provides some support for the idea that the Rogerian relationship qualities (also known as the "real relationship"; Wampold & Imel, 2015), contribute to psychotherapy outcomes over and above other aspects of the treatment relationship, such as working alliance (Kivlighan Jr et al., 2017). In this regard, practitioner credibility and persuasiveness of the treatment rationale can be conceptualized as paralleling the bond as well as the goal and task agreement aspects of the working alliance. Overall, the results suggested that, with the exception of the healing setting (which was a weak overall predictor of hope and outcomes), Frank and Frank's factors are good independent predictors of outcomes in psychotherapy.

The results from the cross-sectional model for the psychotherapy group were partially replicated in the longitudinal model. Notably, the limited sample sizes of the groups used in the longitudinal analysis precluded any strong conclusions (as evident by the large confidence intervals around the point estimates). Nevertheless, hope remained a strong predictor of treatment outcomes six to eight months later after controlling for baseline treatment issue severity, with an almost identical coefficient to the cross-sectional model. Furthermore, credibility and treatment rationale had significant indirect effects on long-term outcomes by

contributing to hope. Thus, results from the longitudinal model give further credence to the idea that demoralized psychotherapy clients experience considerable symptom relief through positive expectations associated with treatment, and that the benefits of positive expectations can persist for long periods of time. This is in line with research demonstrating the long-term potency of the placebo effect. For example, results of a study where individuals diagnosed with Parkinson's disease received either a transplant of embryonic dopamine neurons or a sham surgery indicated a large placebo effect that persisted for 12 months (McRae et al., 2004).

Psychological Issues Treated by CAM Practitioners

Cross-sectional results from the participant group who received treatment for psychological issues from CAM practitioners differed from those who received psychotherapy. Hope was moderately related to treatment outcomes, and although the coefficient was not statistically significant (possibly due to smaller sample size), it also did not differ significantly from the estimates in other groups (as the confidence intervals overlapped). The main predictor of outcomes in this group was the Rogerian factor (not mediated through hope), with all other effects being small and nonsignificant. This suggested that individuals seeking CAM approaches for psychological health issues, stress relief, or life problems, primarily experienced relief due to their interactions with genuinely empathetic and caring practitioners. Two factors may have played a role. First, individuals seeking help for psychological issues from CAM practitioners may consider the quality of their relationships with their treatment providers to be of primary importance (Barret et al., 2004; Sivén, & Mishtal, 2012). Second, the treatment rationales associated with the particular practices included in this treatment group (e.g., yoga, meditation) may be widely known in the general culture. Thus, individuals may seek help from these

practitioners after having already “bought into” the treatment rationale (thus, treatment rationale effects would not be expected).

Pain Issues Treated by Chiropractors

The results for individuals who were receiving treatment from chiropractors for various pain issues were similar to those receiving psychotherapy for the psychological issues, with some notable differences. Hope was a strong predictor of perceived improvement in this group. Furthermore, cogent treatment rationales and perceived credibility of the practitioner contributed to a greater sense of improvement by inciting hope. The Rogerian qualities of the practitioner showed effects very similar to the psychotherapy group, alas only marginally significant (most likely due to a somewhat smaller sample size). That said, two interesting findings emerged in this group that were different from the effects in the psychotherapy group. Namely, practitioner credibility had a sizable direct effect on perceived improvement, suggesting that chiropractors may affect positive change through genuine skill (e.g., in the form of effective massage techniques, sound advice) or some other form of influence independent of hope and other relationship factors. Furthermore, there was a puzzling finding of a direct negative effect of healing setting quality on treatment outcomes. In general, the quality of the healing setting was rated very highly across all treatment groups. A possible explanation for this negative relationship is that the items measuring setting quality tend to capture, in this particular treatment group, a sense of discomfort associated with “good” pain that is expected by clients during a massage or spinal manipulation treatment. If that is the case, ratings of the setting as safe and comfortable may in fact be indicative of an insufficiently thorough treatment from the perspective of the clients. This matches Frank and Frank’s notion that effective treatment may involve the arousal of negative emotions, if these emotions are interpreted by clients as signs of

progress or as necessary effort. This particular interpretation of the negative effect is supported to some extent by the fact that a similar effect was found for massage therapists (although it was not significant in that group).

The results from the longitudinal model with regards to the chiropractic group were also somewhat perplexing. Hope did not predict future decreases in pain severity, with a sizable, but nonsignificant effect in the opposite direction of what was expected. Although interpretation of nonsignificant effects is generally inadvisable, here I offer a cautious speculation. Although hope may be a good predictor of early improvement, in this particular group, strong expectations of improvement may be detrimental in the long run as high hopes of some of the participants may be dashed when the expected benefits of treatment fail to materialize (given the absence of empirical evidence for the efficacy of chiropractic treatments above placebo effects; Rubinstein et al., 2012). Thus, such “false hope” may backfire and lead to worse outcomes (Snyder, 2002). A similar interpretation of unexpected results was offered by So (2002) who studied acupuncture and found that positive expectations, when entered into a regression equation with a range of other predictors, negatively predicted treatment outcomes. However, So’s study had a small sample, and this interpretation remains highly speculative. Although the effect for hope was in an unexpected direction, persuasive treatment rationales and Rogerian practitioner qualities had sizable direct effects on future outcomes in the longitudinal model. The relatively strong association of the Rogerian factor with better outcomes was somewhat surprising given the weak effect of the same factor on treatment outcomes in the cross-sectional model. This finding suggests that the influence of common factors on outcomes may shift depending on the time frame that is used in the analysis.

Pain Issues Treated by Massage Therapists

Similar to the psychotherapy and chiropractic treatment groups, hope was strongly related to early-treatment improvement in the massage therapist treatment group. Furthermore, like in the other groups, good treatment rationales led to improvements by inciting hope. Thus, it appears that even in treatments where practitioners are not necessarily expected to provide explanations of client's issues or describe in any great detail the treatment procedures, persuasive treatment rationales remain potent in mobilizing hope and improving treatment outcomes. Although some of the other coefficients were moderately large (e.g., credibility directly predicting outcomes), and behaving in a similar manner to the chiropractic group, they were far from statistical significance, possibly due to smaller sample size.

Overview of Findings

Results from across different treatment groups generally provided support for the value of Frank and Frank's theory of common therapeutic factors. As per Frank and Frank's hypothesis, the degree to which clients felt hopeful about the help they were receiving appeared to be therapeutically important across all treatments (with a nonsignificant medium-sized effect in the PsyCAM group). Furthermore, the two treatment groups with the largest sample sizes (psychotherapy and chiropractic) displayed similar patterns of results, showing independent contributions of most common factors to therapeutic outcomes that were considerably mediated by hope. The evidence for the therapeutic influence of the healing setting was limited. In the one group where it was predictive of outcomes (chiropractic), the effect pointed in an unexpected direction – a finding that requires further investigation. Given the existing research on the healing setting and its hypothetically distal effect on outcomes, I expected to find only small effects in relation to this factor. Although Frank and Frank's common factors appear broadly relevant across healing practices, findings from the current study raise the possibility that there

are additional variables that mediate the effects of individual common factors in different modalities. Notably, those who sought instruction and guidance regarding psychological issues from yoga instructors, meditation instructors, acupuncturists, spiritual guides, and such other CAM practitioners appeared to benefit first and foremost from a high-quality Rogerian-type relationship.

Limitations

There are several limitations to the current study which point towards possible avenues for future research. First and foremost, the study is correlational in nature and therefore precludes causal claims. For example, although Frank and Frank's model presupposes that the confiding relationship with a healer, healing setting, treatment rationales, and treatment procedures help remoralize clients, the causal effects could be bidirectional. When hope is measured contemporaneously with other common factors, the estimated relationships between hope and other factors may be inflated due to the tendency of hopeful participants (perhaps generally prone towards enthusiasm) to favourably regard other aspects of the therapeutic context. In general, cross-sectional approaches and reliance on self-report measures create the possibility that at least some of the effects are affected by methodological artifacts (e.g., halo effects). Current research attempted to minimize such possibilities by using the SEM methodology and examining unique effects of individual common factors while controlling for others. A more rigorous methodology would include ratings of common factors and outcomes derived from multiple sources and measured at multiple time points.

Although some of the analyses presented in the paper were longitudinal in nature and thus attempted to establish temporal relations between the common factors and therapy outcomes, the sample sizes of the longitudinal groups were limited and measurements were taken

only at two points in time. Different timeframes may be relevant for the effects of the common factors to unfold across various types of treatments. Future research should aim to measure common factors and outcomes frequently throughout the course of treatments and use sample sizes large enough to detect small effect sizes, which are expected for some of the interactions between factors and outcomes.

Additionally, the interpretation of the longitudinal effects has been complicated by the group differences between the individuals that completed the follow-up and those that did not. For example, individuals in the chiropractic group who completed the follow-up rated their primary treatment issues as more severe than those who completed only the first part of the study, thus potentially altering the relationship between common factors and outcomes in the longitudinal group (e.g., they may have felt greater distress caused by worse pain, making a soothing environment as reflected by the Rogerian factor more influential). In general, the relative differences in sample sizes made it difficult to make definitive statements about effect sizes across groups. For example, although effect sizes for the Rogerian factor were nearly identical in the psychotherapy and chiropractic groups, they were significant in one group but not the other. Future research attempting this sort of analysis should aim to recruit groups of relatively equal sizes.

Finally, there were reasons to suspect that scores on the BLRI scale (Rogerian factors) may have been less accurate and valid than typical. Although reverse-scored items often cause confusion among participants (Van Sonderen et al., 2013), the response distributions on the reverse-scored BLRI items were very unusual, with most ratings falling on positive and negative extremes. Coupled with normal response patterns on the positively worded items in the same subscales and the information from written comments, this strongly suggested that many of the

participants answered at least some of the reverse-scored items incorrectly. This may have occurred for several reasons. Some confusion may have been caused by the fact that the BLRI scale was presented in a manner that differed from all other questionnaires in the study. Namely, the response options were placed below rather than beside each item, which is more typical. Some individuals commented that the BLRI items were difficult to rate as they felt that they did not know their practitioners well enough after one or two sessions. Thus, some participants may have paid less attention to BLRI items, or answered them inaccurately. The reverse scored items were excluded from the analyses in this study. However, this meant that the aspects of empathy, positive regard, and genuineness that are manifested in practitioners' negative behaviors (e.g., acting distracted, not smiling, displaying anger while pretending otherwise) and are considered to be parts of the constructs were not fully captured in the current study, thus perhaps decreasing the predictive validity of the Rogerian factor in this study.

Notably, response patterns on other reverse-scored items were normal. I did not expect for the reverse-scored items in other scales to capture substantively different aspects of the measured variables. The items were primarily included to decrease acquiescence bias. Given that it is common for the reverse-scored items to form separate methodological factors (in exploratory factor analyses) that do not represent substantive differences (e.g., Wood, Taylor, & Joseph, 2010; Woods, 2006), I excluded these items in order to decrease the complexity of the measurement models. However, I did not expect that doing so would decrease the validity of the scales.

Implications and Future Directions

Despite the limitations, the findings from the current study are interesting in several respects. To my knowledge, this is the first attempt to test Frank and Frank's model of

psychotherapy. Previous research has largely focused individual common factors (Wampold & Imel, 2015), and mostly within the context of conventional psychotherapy. The current study has measured several factors simultaneously and used SEM to show that the factors were empirically distinct and independently related to outcomes in psychotherapy and CAM treatments.

Furthermore, although many concepts related to hope have been studied previously (e.g., motivation, self-efficacy, expectancies; Delsignore & Schnyder, 2007; Halperin, Weitzman, & Otto, 2010; Ryan, Lynch, Vansteenkiste, & Deci, 2011), the broader concept of hope has not been measured empirically until recently (Bartholomew et al., 2015). Results from the current study suggest that hope is strongly related to outcomes across the treatments that are subsumed under Frank and Frank's definition of psychotherapy, and that compelling treatment rationales and procedures are key to the mobilization of hope in clients. Several implications arise out of these findings. First, as per Frank and Frank's (1991) advice, practitioners of different stripes may wish to cultivate qualities identified in the study of rhetoric while recognizing that treatment theories and methods are, in part, tools for building hope. Second, following the studies on the identification of client characteristics to which therapies should be adapted (i.e., culture, oppositionality, readiness to change, coping style, religiosity, etc.), future research should aim to find explanations and treatment protocols that, while being in accord with existing psychological knowledge, are best able to elicit hope in specific types of clients. Finally, clinical trials comparing treatment protocols should test whether any differences in outcomes between treatments can be attributable to hope.

The models I tested were able to predict considerable amount of overall variance in treatment outcomes. Several other relevant variables could not be included in the analyzed models due to the sample size limitations, such as homework completion and additional indices

of treatment and therapist credibility (e.g., number of friends and family members seen by the same practitioner). Finally, no interaction effects were examined in the current study. Frank and Frank hypothesize that individuals who are most demoralized should experience the greatest benefits from high levels of common therapeutic factors, thus pointing to possible interaction effects. Building upon the current findings, future research should use more sophisticated methodology (i.e., use of multiple raters to make many measurements before, during, and after treatment) to examine models that closer approximate Frank and Frank's proposed factors, interactions, and processes, thus facilitating the development of a comprehensive framework for understanding psychotherapy.

References:

- Amira, S., & Abramowitz, S. I. (1979). Therapeutic attraction as a function of therapist attire and office furnishings. *Journal of Consulting and Clinical Psychology, 47*, 198-200.
doi: 10.1037/0022-006X.47.1.198
- Anderson, T., Ogles, B. M., Patterson, C. L., Lambert, M. J., & Vermeersch, D. A. (2009). Therapist effects: Facilitative interpersonal skills as a predictor of therapist success. *Journal of Clinical Psychology, 65*(7), 755-768. doi: 10.1002/jclp.20583
- Anker, M. G., Owen, J., Duncan, B. L., & Sparks, J. A. (2010). The alliance in couple therapy: Partner influence, early change, and alliance patterns in a naturalistic sample. *Journal of Consulting and Clinical Psychology, 78*(5), 635-645. <http://dx.doi.org/10.1037/a0020051>
- Baldwin, S. A., & Imel, Z. E. (2013). Therapist effects: Findings and methods. *Bergin and Garfield's handbook of psychotherapy and behaviour change, 6*, 258-297.
- Baldwin, S. A., Berkeljon, A., Atkins, D. C., Olsen, J. A., & Nielsen, S. L. (2009). Rates of change in naturalistic psychotherapy: Contrasting dose-effect and good-enough level models of change. *Journal of Consulting and Clinical Psychology, 77*(2), 203-211.
<http://dx.doi.org/10.1037/a0015235>
- Baldwin, S. A., Wampold, B. E., & Imel, Z. E. (2007). Untangling the alliance-outcome correlation: Exploring the relative importance of therapist and patient variability in the alliance. *Journal of Consulting and Clinical Psychology, 75*(6), 842-852.
<http://dx.doi.org/10.1037/0022-006X.75.6.842>
- Barkham, M., Gilbert, N., Connell, J., Marshall, C. & Twigg, E. (2005). Suitability and utility of the CORE-OM and CORE-A for assessing severity of presenting problems in psychological therapy services based in primary and secondary care settings. *British*

- Journal of Psychiatry*, 186, 239-246.
- Barkham, M., Margison, A. F., Leach, C., Lucock, M., Mellor-Clark, J., Evans, C., Benson, L., Connell, J., Audin, K. & McGrath, G. (2001). Service profiling and outcomes benchmarking using the CORE-OM: towards practice-based evidence in the psychological therapies. *Journal of Consulting and Clinical Psychology*, 69(2), 184-196.
- Barnes, P. M., Bloom, B., & Nahin, R. L. (2008). Complementary and alternative medicine use among adults and children: United States, 2007. National health statistics reports 2008, 12, 1-23. Retrieved from <http://nccam.nih.gov/news/2008/nhsr12.pdf>
- Barrett, B., Marchand, L., Scheder, J., Appelbaum, D., Plane, M. B., Blustein, J., ... & Capperino, C. (2004). What complementary and alternative medicine practitioners say about health and health care. *The Annals of Family Medicine*, 2(3), 253-259.
- Barrett, B., Muller, D., Rakel, D., Rabago, D., Marchand, L., & Scheder, J. C. (2006). Placebo, meaning, and health. *Perspectives in Biology and Medicine*, 49(2), 178-198. doi:10.1353/pbm.2006.0019
- Barrett-Lennard, G. T. (1981). The empathy cycle: Refinement of a nuclear concept. *Journal of Counseling Psychology*, 28(2), 91-100. <http://dx.doi.org/10.1037/0022-0167.28.2.91>
- Barrett-Lennard, Godfrey T. (2015). The relationship inventory: a complete resource and guide. Chichester, West Sussex: John Wiley & Sons, Ltd.
- Bartholomew, T. T., Scheel, M. J., & Cole, B. P. (2015). Development and validation of the hope for change through counseling scale. *The Counseling Psychologist*, 43(5), 671-702.
- Baskin, T. W., Tierney, S. C., Minami, T., & Wampold, B. E. (2003). Establishing Specificity in

- Psychotherapy: A Meta-Analysis of Structural Equivalence of Placebo Controls. *Journal of Consulting and Clinical Psychology*, 71(6), 973-979. <http://dx.doi.org/10.1037/0022-006X.71.6.973>
- Beck, A. T. (1970). Cognitive therapy: Nature and relation to behaviour therapy. *Behavior therapy*, 1(2), 184-200. [https://doi.org/10.1016/S0005-7894\(70\)80030-2](https://doi.org/10.1016/S0005-7894(70)80030-2)
- Bell, E. C., Marcus, D. K., & Goodlad, J. K. (2013). Are the parts as good as the whole? A meta-analysis of component treatment studies. *Journal of Consulting and Clinical Psychology*, 81(4), 722-736. <http://dx.doi.org/10.1037/a0033004>
- Benish, S. G., Imel, Z. E., & Wampold, B. E. (2008). The relative efficacy of bona fide psychotherapies for treating post-traumatic stress disorder: A meta-analysis of direct comparisons. *Clinical Psychology Review*, 28, 746–758. doi:10.1016/j.cpr.2008.06.001
- Benish, S. G., Quintana, S., & Wampold, B. E. (2011). Culturally adapted psychotherapy and the legitimacy of myth: a direct-comparison meta-analysis. *Journal of Counseling Psychology*, 58(3), 279-289. <http://dx.doi.org/10.1037/a0023626>
- Bensing, J. M., & Verheul, W. (2010). The silent healer: the role of communication in placebo effects. *Patient Education and Counseling*, 80(3), 293-299. <https://doi.org/10.1016/j.pec.2010.05.033>
- Bernal, G., & Sáez-Santiago, E. (2006). Culturally centered psychosocial interventions. *Journal of Community Psychology*, 34(2), 121-132. doi:10.1002/jcop.20096
- Beutler, L. E., Harwood, T. M., Kimpara, S., Verdirame, D., & Blau, K. (2011). Coping style. *Journal of clinical psychology*, 67(2), 176-183. <http://onlinelibrary.wiley.com/doi/10.1002/jclp.20752/full>
- Beutler, L. E., Harwood, T. M., Michelson, A., Song, X., & Holman, J. (2011).

- Reactance/resistance level*. In J. C. Norcross (Ed.), *Psychotherapy relationships that work* (2nd ed.). New York: Oxford University Press.
- Bishop, F. L., & Lewith, G. T. (2010). Who uses CAM? A narrative review of demographic characteristics and health factors associated with CAM use. *Evidence-Based Complementary and Alternative Medicine*, 7(1), 11-28.
- Bloom, L. J., Weigel, R. G., & Trautt, G. M. (1977). Therapeugenic factors in psychotherapy: Effects of office decor and subject-therapist sex pairing on the perception of credibility. *Journal of Consulting and Clinical Psychology*, 45(5), 867.
<http://dx.doi.org/10.1037/0022-006X.45.5.867>
- Boot, W. R., Simons, D. J., Stothart, C., & Stutts, C. (2013). The pervasive problem with placebos in psychology: why active control groups are not sufficient to rule out placebo effects. *Perspectives on Psychological Science*, 8(4), 445-454.
<https://doi.org/10.1177/1745691613491271>
- Bordin, E. S. (1979). The generalizability of the psychoanalytic concept of the working alliance. *Psychotherapy: Theory, research & practice*, 16(3), 252.
<http://dx.doi.org/10.1037/h0085885>
- Boswell, J. F., Gallagher, M. W., Sauer-Zavala, S. E., Bullis, J., Gorman, J. M., Shear, M. K., & Barlow, D. H. (2013). Patient characteristics and variability in adherence and competence in cognitive-behavioural therapy for panic disorder. *Journal of Consulting and Clinical Psychology*, 81(3), 443. doi: 10.1037/a0031437
- Bystad, M., Bystad, C., & Wynn, R. (2015). How can placebo effects best be applied in clinical practice? A narrative review. *Psychology research and behaviour management*, 8, 41.
- Campbell, A., & Hemsley, S. (2009). Outcome Rating Scale and Session Rating Scale in

- psychological practice: Clinical utility of ultra-brief measures. *Clinical Psychologist*, 13(1), 1-9. doi: 10.1080/13284200802676391
- Chaikin, A. L., Derlega, V. J., & Miller, S. J. (1976). Effects of room environment on self disclosure in a counseling analogue. *Journal of Counseling Psychology*, 23, 479-481. doi: 10.1037/0022-0167.23.5.479
- Chambless, D. L., & Ollendick, T. H. (2001). Empirically supported psychological interventions: Controversies and evidence. *Annual review of psychology*, 52(1), 685-716. <https://doi.org/10.1146/annurev.psych.52.1.685>
- Cohen, J. (1992). A power primer. *Psychological bulletin*, 112(1), 155. <http://dx.doi.org/10.1037/0033-2909.112.1.155>
- Constantino, M., Glass, C. R., Arnkoff, D. B., Ametrano, R. M., & Smith, J. Z. (2011). Expectations. In J. C. Norcross (Ed.), *Psychotherapy relationships that work* (2nd ed.). New York: Oxford University Press.
- Constantino, M. J., Arnkoff, D. B., Glass, C. R., Ametrano, R. M., & Smith, J. Z. (2011). Expectations. *Journal of clinical psychology*, 67(2), 184-192.
- Corrigan, J. D., & Schmidt, L. D. (1983). Development and validation of revisions in the Counselor Rating Form. *Journal of Counseling Psychology*, 30(1), 64.
- Del Re, A. C., Flückiger, C., Horvath, A. O., Symonds, D., & Wampold, B. E. (2012). Therapist effects in the therapeutic alliance–outcome relationship: A restricted-maximum likelihood meta-analysis. *Clinical psychology review*, 32(7), 642-649. <https://doi.org/10.1016/j.cpr.2012.07.002>
- Delsignore, A., & Schnyder, U. (2007). Control expectancies as predictors of psychotherapy outcome: A systematic review. *British Journal of Clinical Psychology*, 46(4), 467-483.

- DeRubeis, R.J., Brotman, M.A., & Gibbons, C.J. (2005). Conceptual and methodological analysis of the nonspecifics argument. *Clinical Psychology: Science and Practice, 12*, 174–183. doi: 10.1093/clipsy.bpi022
- DeSantis, B., Jackson, M. J., Duncan, B. L., & Reese, R. J. (2017). Casting a wider net in behavioural health screening in primary care: a preliminary study of the Outcome Rating Scale. *Primary health care research & development, 18*(2), 188-193.
- Devlin, A. S., & Nasar, J. L. (2012). Impressions of psychotherapists' offices: Do therapists and clients agree?. *Professional Psychology: Research and Practice, 43*(2), 118.
<http://dx.doi.org/10.1037/a0027292>
- Devlin, A. S., Donovan, S., Nicolov, A., Nold, O., Packard, A., & Zandan, G. (2009). “Impressive?” Credentials, family photographs, and the perception of therapist qualities. *Journal of Environmental Psychology, 29*, 503-512. doi:10.1016/j.jenvp.2009.08.008
- Doran, J. M. (2016). The working alliance: Where have we been, where are we going?. *Psychotherapy Research, 26*(2), 146-163.
<http://dx.doi.org/10.1080/10503307.2014.954153>
- Duncan, B. L., Miller, S. D., Wampold, B. E., & Hubble, M. A. (2010). *The heart and soul of change: Delivering what works in therapy*. Chicago: American Psychological Association.
- Duncan, B. L. (2012). The Partners for Change Outcome Management System (PCOMS): The Heart and Soul of Change Project. *Canadian Psychology/Psychologie canadienne, 53*(2), 93-104. <http://dx.doi.org/10.1037/a0027762>
- Eisenberg, N., & Eggum, N. D. (2009). Empathic Responding: Sympathy and Personal Distress. *The Social Neuroscience of Empathy, 71-84*.

doi:10.7551/mitpress/9780262012973.003.0007

- Eisenberg, D. M., Kessler, R. C., Van Rompay, M. I., Kaptchuk, T. J., Wilkey, S. A., Appel, S., & Davis, R. B. (2001). Perceptions about complementary therapies relative to conventional therapies among adults who use both: results from a national survey. *Annals of internal medicine*, *135*(5), 344-351.
- Elliott, R., Bohart, A. C., Watson, J. C., & Greenberg, L. S. (2011). Empathy. *Psychotherapy*, *48*(1), 43-49. <http://dx.doi.org/10.1037/a0022187>
- Farber, B. A., & Doolin, E. M. (2011). Positive regard. *Psychotherapy*, *48*(1), 58-64. <http://dx.doi.org/10.1037/a0022141>
- Farber, B. A. (2007). On the enduring and substantial influence of Carl Rogers' not-quite necessary nor sufficient conditions. *Psychotherapy: Theory, Research, Practice, Training*, *44*(3), 289-294. <http://dx.doi.org/10.1037/0033-3204.44.3.289>
- Fournier, J. C., DeRubeis, R. J., Hollon, S. D., Dimidjian, S., Amsterdam, J. D., Shelton, R. C., & Fawcett, J. (2010). Antidepressant drug effects and depression severity: a patient-level meta-analysis. *Jama*, *303*(1), 47-53. doi:10.1001/jama.2009.1943
- Frank, J. D., & Frank, J. B. (1961). *Persuasion and healing: A comprehensive study of psychotherapy*. Baltimore: Johns Hopkins University Press.
- Frank, J. D. (1973). *Persuasion and Healing: A comprehensive study of psychotherapy*. Baltimore: Johns Hopkins University Press.
- Frank, J. D., & Frank, J. B. (1991). *Persuasion and healing: A comparative study of psychotherapy* (2nd ed.). Baltimore, MD: Johns Hopkins University Press.
- Frank, J. D., & Frank J. B. (2004). *Persuasion and Healing: A comprehensive study of psychotherapy* (3rd ed.). Baltimore: Johns Hopkins University Press.

- Fritz, M. S., & MacKinnon, D. P. (2007). Required sample size to detect the mediated effect. *Psychological Science, 18*, 233-239. doi:10.1111/j.1467-9280.2007.01882.x
- Ganley, R. M. (1989). The Barrett-Lennard Relationship Inventory (BLRI): Current and Potential Uses with Family Systems. *Family process, 28*(1), 107-115.
- Garfield, S. L. (1982). Ecticism and integration in psychotherapy. *Behavior therapy, 13*(5), 610-623. [https://doi.org/10.1016/S0005-7894\(82\)80019-1](https://doi.org/10.1016/S0005-7894(82)80019-1)
- Gelso, C. (2014). A tripartite model of the therapeutic relationship: Theory, research, and practice. *Psychotherapy Research, 24*(2), 117-131. doi:10.1080/10503307.2013.845920
- Goldfried, M. R., & Wolfe, B. E. (1998). Toward a more clinically valid approach to therapy research. *Journal of consulting and clinical psychology, 66*(1), 143. <http://dx.doi.org/10.1037/0022-006X.66.1.143>
- Goldfried, M. R. (1980). Toward the delineation of therapeutic change principles. *American Psychologist, 35*(11), 991-999. <http://dx.doi.org/10.1037/0003-066X.35.11.991>
- Goldfried, M. R. (1982). *Converging themes in psychotherapy: Trends in psychodynamic, humanistic, and behavioural practice*. New York: Springer Publishing Company.
- Greenberg, R. P., Constantino, M. J., & Bruce, N. (2006). Are patient expectations still relevant for psychotherapy process and outcome? *Clinical Psychology Review, 26*(6), 657-678. doi:10.1016/j.cpr.2005.03.002
- Grencavage, L. M., & Norcross, J. C. (1990). Where are the commonalities among the therapeutic common factors?. *Professional Psychology: Research and Practice, 21*(5), 372. <http://dx.doi.org/10.1037/0735-7028.21.5.372>
- Hall, G. C. N., Ibaraki, A. Y., Huang, E. R., Marti, C. N., & Stice, E. (2016). A meta-analysis of cultural adaptations of psychological interventions. *Behavior therapy, 47*(6), 993-1014.

<https://doi.org/10.1016/j.beth.2016.09.005>

- Halperin, D. M., Weitzman, M. L., & Otto, M. W. (2010). Therapeutic Alliance and Common Factors in Treatment. In M. W. Otto and S. Hofmann (Eds.), *Avoiding Treatment Failures in the Anxiety Disorders*. Springer, New York.
- Harris, P. E., Cooper, K. L., Relton, C., & Thomas, K. J. (2012). Prevalence of complementary and alternative medicine (CAM) use by the general population: a systematic review and update. *International Journal of Clinical Practice*, 66(10), 924-939. doi:10.1111/j.1742-1241.2012.02945.x
- Hatcher, R. L., & Gillaspay, J. A. (2006). Development and validation of a revised short version of the Working Alliance Inventory. *Psychotherapy Research*, 16(1), 12-25.
- Heppner, P. P., & Pew, S. (1977). Effects of diplomas, awards, and counselor sex on perceived expertness. *Journal of Counseling Psychology*, 24, 147-149.
doi:10.1037/0022-0167.24.2.147
- Horvath, A. O., & Greenberg, L. S. (1989). Development and validation of the Working Alliance Inventory. *Journal of counseling psychology*, 36(2), 223.
<http://dx.doi.org/10.1037/0022-0167.36.2.223>
- Horvath, A. O., & Luborsky, L. (1993). The role of the therapeutic alliance in psychotherapy. *Journal of consulting and clinical psychology*, 61(4), 561.
<http://dx.doi.org/10.1037/0022-006X.61.4.561>
- Horvath, A. O., & Symonds, B. D. (1991). Relation between working alliance and outcome in psychotherapy: A meta-analysis. *Journal of Counseling Psychology*, 38(2), 139-149.
<http://dx.doi.org/10.1037/0022-0167.38.2.139>
- Horvath, A. O., Del Re, A. C., Flückiger, C., & Symonds, D. (2011). Alliance in individual

- psychotherapy. *Psychotherapy*, 48(1), 9-16. <http://dx.doi.org/10.1037/a0022186>
- Hoyt, W. T. (1996). Antecedents and effects of perceived therapist credibility: A meta-analysis. *Journal of Counseling Psychology*, 43(4), 430-447. <http://dx.doi.org/10.1037/0022-0167.43.4.430>
- Hróbjartsson, A., & Gøtzsche, P. C. (2006). Unsubstantiated claims of large effects of placebo on pain: serious errors in meta-analysis of placebo analgesia mechanism studies. *Journal of clinical epidemiology*, 59(4), 336. <https://search.proquest.com>
- Hróbjartsson, A., & Gøtzsche, PC. (2010) Placebo interventions for all clinical conditions. *Cochrane Database of Systematic Reviews* 2010, 1, doi:10.1002/14651858.CD003974.pub3.
- Hubble, M. A. (1999). Introduction: In MA Hubble, BL Duncan, SD Miller (Eds), *The heart & soul of change. What works in therapy. American Psychological Association. Washington, DC.*
- Norcross, J. C. (2002). *Psychotherapy relationships that work: Therapist contributions and responsiveness to patients*. New York: Oxford University Press.
- Jubb, J., & Bensing, J. M. (2013). The sweetest pill to swallow: how patient neurobiology can be harnessed to maximise placebo effects. *Neuroscience & Biobehavioural Reviews*, 37(10), 2709-2720. <https://doi.org/10.1016/j.neubiorev.2013.09.006>
- Kanodia, A. K., Legedza, A. T., Davis, R. B., Eisenberg, D. M., & Phillips, R. S. (2010). Perceived benefit of Complementary and Alternative Medicine (CAM) for back pain: a national survey. *The Journal of the American Board of Family Medicine*, 23(3), 354-362.
- Kass, R. E., & Raftery, A. E. (1995). Bayes factors. *Journal of the american statistical association*, 90(430), 773-795.

- Kazantzis, N., Whittington, C., Zelencich, L., Kyrios, M., Norton, P. J., & Hofmann, S. G. (2016). Quantity and quality of homework compliance: a meta-analysis of relations with outcome in cognitive behaviour therapy. *Behavior Therapy, 47*(5), 755-772. <https://doi.org/10.1016/j.beth.2016.05.002>
- Kelley, J. M., Lembo, A. J., Ablon, J. S., Villanueva, J. J., Conboy, L. A., Levy, R., & Riess, H. (2009). Patient and practitioner influences on the placebo effect in irritable bowel syndrome. *Psychosomatic medicine, 71*(7), 789. doi: 10.1097/PSY.0b013e3181acee12
- Kenny, D. A. (2015). *Measuring model fit*. Retrieved July 20, 2017, from <http://davidakenny.net/cm/fit.htm>
- Kirsch, I., Deacon, B. J., Huedo-Medina, T. B., Scoboria, A., Moore, T. J., & Johnson, B. T. (2008). Initial severity and antidepressant benefits: a meta-analysis of data submitted to the Food and Drug Administration. *PLoS medicine, 5*(2), 45. <https://doi.org/10.1371/journal.pmed.0050045>
- Kirsch, I., Wampold, B., & Kelley, J. M. (2016). Controlling for the placebo effect in psychotherapy: Noble quest or tilting at windmills?. *Psychology of Consciousness: Theory, Research, and Practice, 3*(2), 121. <http://dx.doi.org/10.1037/cns0000065>
- Kirsch, I. (2015). Antidepressants and the placebo effect. *Zeitschrift für Psychologie*. <https://doi.org/10.1027/2151-2604/a000176>
- Kivlighan, D. M., Jr., Kline, K., Gelso, C. J., & Hill, C. E. (2017). Congruence and discrepancy between working alliance and real relationship: Variance decomposition and response surface analyses. *Journal of Counseling Psychology, 64*(4), 394-409. <http://dx.doi.org/10.1037/cou0000216>
- Klein, D. N., Schwartz, J. E., Santiago, N. J., Vivian, D., Vocisano, C., Castonguay, L. G., &

- Riso, L. P. (2003). Therapeutic alliance in depression treatment: controlling for prior change and patient characteristics. *Journal of Consulting and Clinical Psychology, 71*(6), 997. <http://dx.doi.org/10.1037/0022-006X.71.6.997>
- Kline, R. B. (2016). *Principles and practice of structural equation modeling* (4th Ed.). New York: Guilford Press.
- Kleinman, A., Eisenberg, L., & Good, B. (2006). Culture, illness, and care: clinical lessons from anthropologic and cross-cultural research. *Focus, 140*-149. <https://doi.org/10.1176/foc.4.1.140>
- Kolden, G. G., Klein, M. H., Wang, C.-C., & Austin, S. B. (2011). Congruence/genuineness. *Psychotherapy, 48*(1), 65-71. <http://dx.doi.org/10.1037/a0022064>
- Kroenke, K., Spitzer, R. L., & Williams, J. B. (2002). The PHQ-15: validity of a new measure for evaluating the severity of somatic symptoms. *Psychosomatic medicine, 64*(2), 258-266.
- Lambert, M. J., Gregersen, A. T., & Burlingame, G. M. (2004). The Outcome Questionnaire-45. In M. E. Maruish (Ed.), *The use of psychological testing for treatment planning and outcomes assessment: Instruments for adults* (pp. 191-234). Mahwah, NJ: Lawrence Erlbaum Associates.
- Lambert, M. J. (1992). Psychotherapy outcome research: Implications for integrative and eclectic therapists. In J. C. Norcross & M. R. Goldfried (Eds.), *Handbook of psychotherapy integration*. New York: Basic Books.
- Lampropoulos, G. K. (2001). Common processes of change in psychotherapy and seven other social interactions. *British Journal of Guidance and Counselling, 29*(1), 21-33. <http://dx.doi.org/10.1080/03069880020019356>

- Lazarus, A. A. (2007). On necessity and sufficiency in counseling and psychotherapy (revisited). *Psychotherapy: Theory, Research, Practice, Training*, 44(3), 253-256.
<http://dx.doi.org/10.1037/0033-3204.44.3.253>
- Levy, K. N., Ellison, W. D., Scott, L. N., & Bernecker, S. L. (2011). *Attachment style*. In J. C. Norcross (Ed.), *Psychotherapy relationships that work (2nd ed.)*. New York: Oxford University Press.
- Linde, K., Niemann, K., & Meissner, K. (2010). Are sham acupuncture interventions more effective than (other) placebos? A re-analysis of data from the Cochrane review on placebo effects. *Complementary Medicine Research*, 17(5), 259-264.
<https://doi.org/10.1159/000320374>
- Little, T. D., Cunningham, W. A., Shahar, G., & Widaman, K. F. (2002). To parcel or not to parcel: Exploring the question, weighing the merits. *Structural equation modeling*, 9(2), 151-173.
- Lorenc, A., Ilan-Clarke, Y., Robinson, N., & Blair, M. (2009). How parents choose to use CAM: a systematic review of theoretical models. *BMC Complementary and Alternative Medicine*, 9(1), 9.
- Lundh, L. G. (2014). The search for common factors in psychotherapy. Two theoretical models, with different empirical implications. *Integr Psychol Behav Sci*, 3, 131-50.
<https://lucris.lub.lu.se/ws/files/1475807/4693440.pdf>
- MacKinnon, D. P., Lockwood, C. M., & Williams, J. (2004). Confidence limits for the indirect effect: Distribution of the product and resampling methods. *Multivariate Behavioral Research*, 39, 99-128. doi:10.1207/s15327906mbr3901_4
- Mahrer, A. R. (2007). To a large extent, the field got it wrong: New learnings from a new look at

- an old classic. *Psychotherapy: Theory, Research, Practice, Training*, 44(3), 274-278.
<http://dx.doi.org/10.1037/0033-3204.44.3.274>
- Marsh, H. W., Morin, A. J., Parker, P. D., & Kaur, G. (2014). Exploratory structural equation modeling: An integration of the best features of exploratory and confirmatory factor analysis. *Annual review of clinical psychology*, 10, 85-110.
- Martin, D. J., Garske, J. P., & Davis, M. K. (2000). Relation of the therapeutic alliance with outcome and other variables: A meta-analytic review. *Journal of Consulting and Clinical Psychology*, 68(3), 438-450.<http://dx.doi.org/10.1037/0022-006X.68.3.438>
- McAleavey, A. A., & Castonguay, L. G. (2015). *The process of change in psychotherapy: Common and unique factors in Psychotherapy research* (pp. 293-310). New York: Springer.
- McGrath, R. E., & Meyer, G. J. (2006). When effect sizes disagree: The case of r and d. *Psychological Methods*, 11(4), 386-401. <http://dx.doi.org/10.1037/1082-989X.11.4.386>
- McRae, C., Cherin, E., Yamazaki, T. G., Diem, G., Vo, A. H., Russell, D., ... & Winfield, H. (2004). Effects of perceived treatment on quality of life and medical outcomes in a double-blind placebo surgery trial. *Archives of general psychiatry*, 61(4), 412-420.
- Miller, S. D., Duncan, B. L., Brown, J., Sparks, J. A., & Claud, D. A. (2003). The outcome rating scale: A preliminary study of the reliability, validity, and feasibility of a brief visual analog measure. *Journal of Brief Therapy*, 2(2), 91-100. <https://www.researchgate.net>
- Miller, S. D., Hubble, M. A., Chow, D. L., & Seidel, J. A. (2013). The outcome of psychotherapy: Yesterday, today, and tomorrow. *Psychotherapy*, 50(1), 88-97.
<http://dx.doi.org/10.1037/a0031097>
- Mirtz, T. A., Morgan, L., Wyatt, L. H., & Greene, L. (2009). An epidemiological examination of

- the subluxation construct using Hill's criteria of causation. *Chiropractic & Osteopathy*, 17(1), 13. <https://doi.org/10.1186/1746-1340-17-13>
- Miwa, Y., & Hanyu, K. (2006). The effect of interior design on communication and impressions of a counselor in a counseling room. *Environment and Behavior*, 38, 484- 502.
doi:10.1177/0013916505280084
- Munder, T., Brüttsch, O., Leonhart, R., Gerger, H., & Barth, J. (2013). Researcher allegiance in psychotherapy outcome research: an overview of reviews. *Clinical Psychology Review*, 33(4), 501-511. <https://doi.org/10.1016/j.cpr.2013.02.002>
- Muthén, L. K., & Muthén, B. O. (2012). Mplus Version 7 user's guide. *Los Angeles, CA: Muthén & Muthén*.
- Nasar, J. L., & Devlin, A. S. (2011). Impressions of psychotherapists' offices. *Journal of Counseling Psychology*, 58, 310-320. doi. 10.1037/a0023887
- National Health and Medical Research Council. (2015). NHMRC Information Paper: Evidence on the effectiveness of homeopathy for treating health conditions. *Canberra: National Health and Medical Research Council*.
- Nienhuis, J. B., Owen, J., Valentine, J. C., Winkeljohn Black, S., Halford, T. C., Parazak, S. E., & Hilsenroth, M. (2016). Therapeutic alliance, empathy, and genuineness in individual adult psychotherapy: A meta-analytic review. *Psychotherapy Research*, 1-13.
doi:10.18297/etd/1063
- Norcross, J. C, Krebs, P., & Prochaska, J. O. (2011). *Stages of change*. In J. C. Norcross (Ed.), *Psychotherapy relationships that work* (2nd ed.). New York: Oxford University Press.
- Norcross, J. C., & Lambert, M. J. (2011). Psychotherapy relationships that work II. *Psychotherapy*, 48(1), 4. <http://dx.doi.org/10.1037/a0022180>

- Norcross, J. C., & Wampold, B. E. (2011). Evidence-based therapy relationships: Research conclusions and clinical practices. *Psychotherapy, 48*(1), 98-102.
<http://dx.doi.org/10.1037/a0022161>
- Norcross, J. C. (2010). The therapeutic relationship. In B. L. Duncan, S. D. Miller, B. E. Wampold, & M. A. Hubble (Eds.), *The heart and soul of change: Delivering what works in therapy*. 113-141.<http://dx.doi.org/10.1037/12075-004>
- Orlinsky, D. E., & Rønnestad, M. H. (2005). *How psychotherapists develop: A study of therapeutic work and professional growth*. American Psychological Association.
- Owen, J., Duncan, B., Reese, R. J., Anker, M., & Sparks, J. (2014). Accounting for therapist variability in couple therapy outcomes: what really matters?. *Journal of Sex & Marital Therapy, 40*(6), 488-502. <http://dx.doi.org/10.1080/0092623X.2013.772552>
- Padesky, C. A. (1994). Schema change processes in cognitive therapy. *Clinical Psychology & Psychotherapy, 1*(5), 267-278. doi: 10.1002/cpp.5640010502
- Pan, S. Y., Gao, S. H., Zhou, S. F., Tang, M. K., Yu, Z. L., & Ko, K. M. (2011). New perspectives on complementary and alternative medicine: an overview and alternative therapy. *Alternative Therapies in Health and Medicine, 18*(4), 20-36.
<http://dx.doi.org/10.1155/2013/627375>
- Paolacci, G., & Chandler, J. (2014). Inside the Turk: Understanding Mechanical Turk as a participant pool. *Current Directions in Psychological Science, 23*(3), 184-188.
- Papakostas, Y. G. and Daras, M. D. (2001), Placebos, Placebo Effect, and the Response to the Healing Situation: The Evolution of a Concept. *Epilepsia, 42*, 1614–1625.
doi:10.1046/j.1528-1157.2001.41601.x
- Patterson, C. H. (1989). Foundations for a systematic eclectic psychotherapy. *Psychotherapy:*

- Theory, Research, Practice, Training*, 26(4), 427. <http://dx.doi.org/10.1037/h0085461>
- Paul, G. L. (1967). Strategy of outcome research in psychotherapy. *Journal of Consulting Psychology*, 31(2), 109. <http://dx.doi.org/10.1037/h0024436>
- Perrin, P. B., Heesacker, M., Pendley, C., & Smith, M. B. (2010). Social influence processes and persuasion in psychotherapy and counseling. *Social Psychological Foundations of Clinical Psychology*, 441-460. <https://www.researchgate.net>
- Pollo, A., Carlino, E., & Benedetti, F. (2011). Placebo mechanisms across different conditions: from the clinical setting to physical performance. *Philosophical Transactions of the Royal Society of London B: Biological Sciences*, 366(1572), 1790-1798. doi: 10.1098/rstb.2010.0381
- Powers, M. B., Halpern, J. M., Ferenschak, M. P., Gillihan, S. J., & Foa, E. B. (2010). A meta-analytic review of prolonged exposure for posttraumatic stress disorder. *Clinical Psychology Review*, 30, 635– 641. <https://doi.org/10.1016/j.cpr.2010.04.007>
- Pressly, P. K., & Heesacker, M. (2001). The physical environment and counseling: A review of theory and research. *Journal of Counseling & Development*, 79(2), 148-160. doi:10.1002/j.1556-6676.2001.tb01954.x
- Price, D. D., Finniss, D. G., & Benedetti, F. (2008). A comprehensive review of the placebo effect: recent advances and current thought. *Annu. Rev. Psychol.*, 59, 565-590. <https://doi.org/10.1146/annurev.psych.59.113006.095941>
- Rogers, C. R. (1957). *On becoming a person* (p. 202). Boston: Houghton Mifflin.
- Rogers, C. R. (2007). The necessary and sufficient conditions of therapeutic personality change. *Psychotherapy: Theory, Research, Practice, Training*, 44(3), 240-248. <http://dx.doi.org/10.1037/0033-3204.44.3.240>

- Ronan, K. R., & Kazantzis, N. (2006). The use of between-session (homework) activities in psychotherapy: Conclusions from the Journal of Psychotherapy. *Journal of Psychotherapy Integration, 16*(2), 254. <http://dx.doi.org/10.1037/1053-0479.16.2.254>
- Rosen, C. S. (2000). Is the sequencing of change processes by stage consistent across health problems? A meta-analysis. *Health Psychology, 19*(6), 593-604.
<http://dx.doi.org/10.1037/0278-6133.19.6.593>
- Rosenzweig, S. (1936). Some implicit common factors in diverse methods of psychotherapy. *American journal of Orthopsychiatry, 6*(3), 412.
<http://dx.doi.org/10.1111/j.1939-0025.1936.tb05248.x>
- Rubinstein, S. M., Terwee, C. B., Assendelft, W. J., de Boer, M. R., & van Tulder, M. W. (2012). Spinal manipulative therapy for acute low-back pain. *Cochrane Database of Systematic Reviews (Online), 9*(9). doi: 10.1002/14651858.CD008880.pub2
- Rutherford, B. R., Wall, M. M., Brown, P. J., Choo, T. H., Wager, T. D., Peterson, B. S., & Roose, S. P. (2016). Patient expectancy as a mediator of placebo effects in antidepressant clinical trials. *American Journal of Psychiatry, 174*(2), 135-142.
<https://doi.org/10.1176/appi.ajp.2016.16020225>
- Ryan, R. M., Lynch, M. F., Vansteenkiste, M., & Deci, E. L. (2011). Motivation and autonomy in counseling, psychotherapy, and behavior change: A look at theory and practice. *The Counseling Psychologist, 39*, 193-260.
- Safran, J. D., Muran, J. C., & Eubanks-Carter, C. (2011). Repairing alliance ruptures. *Psychotherapy, 48*(1), 80-87. <http://dx.doi.org/10.1037/a0022140>
- Scheel, M. J., Hanson, W. E., & Razzhavaikina, T. I. (2004). The Process of Recommending Homework in Psychotherapy: A Review of Therapist Delivery Methods, Client

- Acceptability, and Factors That Affect Compliance. *Psychotherapy: Theory, Research, Practice, Training*, 41(1), 38. <http://dx.doi.org/10.1037/0033-3204.41.1.38>
- Schermelleh-Engel, K., Moosbrugger, H., & Müller, H. (2003). Evaluating the fit of structural equation models: Tests of significance and descriptive goodness-of-fit measures. *Methods of psychological research online*, 8(2), 23-74.
- Schnyder, U. (2009). Future perspectives in psychotherapy. *European Archives of Psychiatry and Clinical Neuroscience*, 259(2), 123-128. <https://doi.org/10.1007/s00406-009-0051-z>
- Seligman, M. E. (1995). The effectiveness of psychotherapy: The Consumer Reports study. *American Psychologist*, 50(12), 965. <http://dx.doi.org/10.1037/0003-066X.50.12.965>
- Shrout, P. E., & Bolger, N. (2002). Mediation in experimental and nonexperimental studies: New procedures and recommendations. *Psychological Methods*, 7, 422-445.
doi:10.1037/1082-989X.7.4.422
- Siegel, J. C., & Sell, J. M. (1978). Effects of objective evidence of expertness and nonverbal behaviour on client-perceived expertness. *Journal of Counseling Psychology*, 25(3), 188.
<http://dx.doi.org/10.1037/0022-0167.25.3.188>
- Simon, G. E., Imel, Z. E., Ludman, E. J., & Steinfeld, B. J. (2012). Is Dropout After a First Psychotherapy Visit Always a Bad Outcome? *Psychiatric Services*, 63(7), 705-707.
doi:10.1176/appi.ps.201100309
- Sinclair, A., Barkham, M., Evans, C., Connell, J., & Audin, K. (2005). Rationale and Development of a General Population Well-Being Measure: Psychometric Status of the GP-CORE in a Student Sample. *British Journal of Guidance and Counselling*, 33(2), 153-173.

- Sivén, J., & Mishtal, J. (2012). Yoga as Entrée to Complementary and Alternative Medicine and Medically Pluralistic Practices. *Human Organization*, 71(4), 348-357.
- Smith, T. B., Rodríguez, M. D., & Bernal, G. (2011). *Culture. In J. C. Norcross (Ed.), Psychotherapy relationships that work* (2nd ed.). New York: Oxford University Press.
- Snyder, C. R. (2002). Hope theory: Rainbows in the mind. *Psychological Inquiry*, 13(4), 249-275.
- So, D. W. (2002). Acupuncture outcomes, expectations, patient–provider relationship, and the placebo effect: Implications for health promotion. *American Journal of Public Health*, 92(10), 1662-1667.
- Strong, S. R. (1968). Counseling: An interpersonal influence process. *Journal of Counseling Psychology*, 15(3), 215. <http://dx.doi.org/10.1037/h0020229>
- Strunk, D. R., Brotman, M. A., & Derubeis, R. J. (2010). The process of change in cognitive therapy for depression: Predictors of early inter-session symptom gains. *Behaviour Research and Therapy*, 48(7), 599-606. doi:10.1016/j.brat.2010.03.011
- Strunk, D. R., Cooper, A. A., Ryan, E. T., DeRubeis, R. J., & Hollon, S. D. (2012). The process of change in cognitive therapy for depression when combined with antidepressant medication: Predictors of early intersession symptom gains. *Journal of Consulting and Clinical Psychology*, 80(5), 730-738. <http://dx.doi.org/10.1037/a0029281>
- Sudak, D. M. (2012). Cognitive behavioural therapy for depression. *Psychiatric Clinics*, 35(1), 99-110. <http://dx.doi.org/10.1016/j.psc.2011.10.001>
- Swift, J. K., Callahan, J. L., & Vollmer, B. M., (2011). *Preferences. In J. C. Norcross (Ed.), Psychotherapy relationships that work* (2nd ed.). New York: Oxford University Press.

- Tracey, T. J., Glidden, C. E., & Kokotovic, A. M. (1988). Factor structure of the Counselor Rating Form—Short. *Journal of Counseling Psychology, 35*(3), 330.
- Tracey, T. J., & Kokotovic, A. M. (1989). Factor structure of the working alliance inventory. *Psychological Assessment: A journal of consulting and clinical psychology, 1*(3), 207. <http://dx.doi.org/10.1037/1040-3590.1.3.207>
- Tracey, T. J., Lichtenberg, J. W., Goodyear, R. K., Claiborn, C. D., & Wampold, B. E. (2003). Concept mapping of therapeutic common factors. *Psychotherapy Research, 13*(4), 401-413. <http://dx.doi.org/10.1037/0022-0167.52.2.236>
- Tryon, G. S., & Winograd, G. (2011). Goal consensus and collaboration. *Psychotherapy, 48*(1), 50-57. <http://dx.doi.org/10.1037/a0022061>
- Tschacher, W., Junghan, U. M., & Pfammatter, M. (2014). Towards a taxonomy of common factors in psychotherapy—results of an expert survey. *Clinical Psychology & Psychotherapy, 21*(1), 82-96. doi: 10.1002/cpp.1822
- Van Sonderen, E., Sanderman, R., & Coyne, J. C. (2013). Ineffectiveness of reverse wording of questionnaire items: Let's learn from cows in the rain. *PloS one, 8*(7), e68967.
- Vickers, A. J., Cronin, A. M., Maschino, A. C., Lewith, G., MacPherson, H., Foster, N. E., & Acupuncture Trialists' Collaboration. (2012). Acupuncture for chronic pain: individual patient data meta-analysis. *Archives of Internal Medicine, 172*(19), 1444-1453. doi: 10.1001/archinternmed.2012.3654
- Wampold, B. E., & Imel, Z. E. (2015). *The great psychotherapy debate: The evidence for what makes psychotherapy work*. New York: Routledge.
- Wampold, B. E., Minami, T., Baskin, T. W., & Tierney, S. C. (2002). A meta-(re) analysis of the effects of cognitive therapy versus 'other therapies' for depression. *Journal of Affective*

- Disorders*, 68(2), 159-165. [https://doi.org/10.1016/S0165-0327\(00\)00287-1](https://doi.org/10.1016/S0165-0327(00)00287-1)
- Wampold, B. E., Minami, T., Tierney, S. C., Baskin, T. W., & Bhati, K. S. (2005). The placebo is powerful: estimating placebo effects in medicine and psychotherapy from randomized clinical trials. *Journal of Clinical Psychology*, 61(7), 835-854. doi: 10.1002/jclp.20129
- Wampold, B. E. (2001). *The great psychotherapy debate: Models, methods, and findings*. Mahwah, NJ: Erlbaum.
- Webb, C. A., DeRubeis, R. J., & Barber, J. P. (2010). Therapist adherence/competence and treatment outcome: A meta-analytic review. *Journal of Consulting and Clinical Psychology*, 78(2), 200-211. <http://dx.doi.org/10.1037/a0018912>
- Weinberger, J. (1995). Common factors aren't so common: The common factors dilemma. *Clinical Psychology: Science and Practice*, 2(1), 45-69.
doi: 10.1111/j.1468-2850.1995.tb00024.x
- Woods, C. M. (2006). Careless responding to reverse-worded items: Implications for confirmatory factor analysis. *Journal of Psychopathology and Behavioral Assessment*, 28(3), 186.
- Wood, A. M., Taylor, P. J., & Joseph, S. (2010). Does the CES-D measure a continuum from depression to happiness? Comparing substantive and artifactual models. *Psychiatry research*, 177(1), 120-123.
- Worthington, E. L. Jr., Hook, J. N., Davis, D. E., & McDaniel, M. A. (2011). *Religion and spirituality*. In J. C. Norcross (Ed.), *Psychotherapy relationships that work* (2nd ed.). New York: Oxford University Press.
- Xu, H., & Tracey, T. J. (2015). Reciprocal influence model of working alliance and therapeutic outcome over individual therapy course. *Journal of Counseling Psychology*, 62(3), 351.

<http://dx.doi.org/10.1037/cou0000089>

Zilcha-mano, S., & Errázuriz, P. (2015). One size does not fit all: Examining heterogeneity and identifying moderators of the alliance-outcome association. *Journal of Counseling Psychology*, 62(4), 579-591. <http://dx.doi.org/10.1037/cou0000103>

Zilcha-Mano, S., & Errázuriz, P. (2017). Early development of mechanisms of change as a predictor of subsequent change and treatment outcome: The case of working alliance. *Journal of Consulting and Clinical Psychology*, 85(5), 508.

<http://dx.doi.org/10.1037/ccp0000192>

Zilcha-Mano, S. (2017). Is the alliance really therapeutic? Revisiting this question in light of recent methodological advances. *American Psychologist*, 72(4), 311.

<http://dx.doi.org/10.1037/a0040435>

Table 1.

Differences in Means on Continuous Demographic Variables Between Treatment Groups.

| | PsyPsych (<i>n</i> = 686) | PsyCAM (<i>n</i> = 155) | PainChir (<i>n</i> = 518) | PainMass (<i>n</i> = 234) | PainAcu (<i>n</i> = 100) | F-ratio | p-value |
|------------------------------------|-------------------------------|-----------------------------|-------------------------------|-------------------------------|------------------------------|---------|---------|
| Age (SD) | 29.2 (10.1) ^a | 30.6 (9.2) ^{ab} | 32.4 (10.2) ^{bc} | 30.5 (10.8) ^{ab} | 33.5 (10.9) ^c | 9.12 | .000 |
| Income, in thousands (SD)‡ | 36.1 (22.4) ^a | 41.1 (22.6) ^{ab} | 43.1 (21.9) ^b | 45.2 (24.0) ^b | 47.5 (24.5) ^b | 9.26 | .000 |
| T _x Issue Severity (SD) | 7.7 (2.0) ^a | 7.3 (2.1) ^{ab} | 7.2 (2.0) ^{ab} | 6.5 (2.2) ^c | 7.1 (1.9) ^b | 17.05 | .000 |
| ORS (SD) | 17.3 (8.8) ^a | 21.4 (8.5) ^b | 25.5 (8.1) ^{cd} | 26.7 (8.2) ^c | 23.9 (7.8) ^d | 95.04 | .000 |
| GP-CORE (SD) | 30.4 (9.0) ^a | 25.9 (9.5) ^b | 20.9 (9.6) ^c | 20.7 (8.9) ^c | 22.4 (9.4) ^c | 99.34 | .000 |
| PHS-15 (SD) | 8.9 (5.2) ^a | 8.6 (4.9) ^{ab} | 6.9 (4.2) ^c | 7.5 (4.5) ^{bc} | 7.1 (5.2) ^c | 14.47 | .000 |
| Improvement (SD) | 3.5 (1.0) ^a | 3.8 (1.0) ^b | 3.7 (0.9) ^b | 3.8 (0.8) ^b | 3.6 (1.0) ^{ab} | 11.20 | .000 |
| T _x Satisfaction (SD) | 8.1 (1.7) ^a | 8.4 (1.4) ^{abc} | 8.6 (1.3) ^{bc} | 8.8 (1.2) ^c | 8.3 (1.4) ^{ab} | 12.00 | .000 |

Note. ‡ Income means for each group excluded students, and individual values were capped at +2SD, or \$96315 (due to skew). Superscripts (^{a,b,c,d}) represent pair wise post-hoc comparison between groups. For a particular variable, values with different superscripts are significantly different ($p < .05$). PsyPsych = Psychotherapists treating psychological issues; PsyCAM = CAM practitioners treating psychological issues; PainChir = Chiropractors treating pain issues; PainMass = Massage therapists treating pain issues; PainAcu = Acupuncturists treating pain issues. Issue Severity and Treatment Satisfaction were both rated 1 to 10. ORS = Outcome Rating Scale (well-being scores ranged from 0 to 40; higher = better); GP-CORE = General Population Clinical Outcomes in Routine Evaluation scale (psychological symptoms, well-being, and general life functioning; scores ranged from 1 to 56; higher scores = higher severity); PHS-15 = Patient Health Questionnaire: Somatic Symptom scale (somatic symptoms ranged from 0 to 30; higher scores = more symptoms).

Table 2.

Demographic Differences on Categorical Variables Between Treatment Groups.

| | PsyPsych (n = 686) | PsyCAM (n = 155) | PainChir (n = 518) | PainMass (n = 234) | PainAcu (n = 100) | df | χ^2 | p-value |
|--|-----------------------|---------------------|-----------------------|-----------------------|----------------------|----|----------|---------|
| Gender (% female) | 58 ^{ab} | 65 ^b | 53 ^a | 67 ^b | 55 ^{ab} | 4 | 16.69 | .002 |
| Completed college/uni. (%) | 44 ^a | 46 ^a | 51 ^a | 51 ^{ab} | 65 ^b | 4 | 18.63 | .001 |
| Ethnicity (%) | ab | ab | a | ab | b | | | |
| Caucasian | 72.4 | 67.3 | 77.3 | 74.7 | 64.6 | 16 | 27.70 | .034 |
| Asian | 10.9 | 12.2 | 9.1 | 12.2 | 19.2 | | | |
| African American | 7.3 | 7.1 | 4.6 | 3.1 | 4.0 | | | |
| Hispanic | 4.8 | 7.7 | 6.4 | 5.7 | 5.1 | | | |
| Other | 4.6 | 5.7 | 2.7 | 4.4 | 7.1 | | | |
| # of T _x sessions at time 1 (%) | | | | | | | | |
| One | 47.0 | 34.3 | 40.6 | 38.4 | 39.8 | 16 | 16.51 | .48 |
| Two | 22.1 | 31.3 | 29.0 | 30.5 | 26.1 | | | |
| Three | 11.0 | 11.2 | 8.5 | 8.5 | 9.1 | | | |
| Four | 6.5 | 6.0 | 6.7 | 7.3 | 5.7 | | | |
| Five or more | 11.0 | 14.9 | 12.9 | 13.4 | 15.9 | | | |

Note. Superscripts (^{a,b,c,d}) represent pair wise chi-square comparison between groups. For a particular variable, values with different superscripts are significantly different ($p < .01$). PsyPsych = Psychotherapists treating psychological issues; PsyCAM = CAM practitioners treating psychological issues; PainChir = Chiropractors treating pain issues; PainMass = Massage therapists treating pain issues; PainAcu = Acupuncturists treating pain issues.

Table 3.

Practitioner Types and Primary Health Issues for PsyPsych and PsyCAM treatment groups.

| PsyPsych | Part I (n = 686) | Part II (n = 138) | PsyCAM (n = 155) | |
|--|---------------------|----------------------|-------------------------------|------|
| Practitioner type (%) | | | | |
| Counselor | 51.0 | 42.6 | Yoga instructor | 17.9 |
| Psychologist | 13.5 | 14.2 | Acupuncturist | 14.7 |
| Social Worker | 10.7 | 9.2 | Meditation instructor | 12.5 |
| Occupational therapist | 2.8 | 3.5 | Spiritual counselor | 11.5 |
| Unspecified psychotherapist type | 20.7 | 29.1 | Reiki practitioner | 5.8 |
| Other | 0.8 | 0.7 | Massage therapist | 5.1 |
| | | | Homeopath | 4.5 |
| | | | Other (< 4% per type) | 39.5 |
| Primary T_x issue (%) | | | | |
| Anxiety issues | 35.2 | 31.4 | Anxiety issues | 42.9 |
| Depression | 23.0 | 29.3 | Depression | 14.5 |
| Anxiety and depression | 13.6 | 16.4 | Anxiety and depression | 7.9 |
| Problems in living | 9.5 | 2.1 | Problems in living | 10.0 |
| Multiple mental health issues | 7.9 | 9.3 | Multiple mental health issues | 0.7 |
| Addiction | 3.8 | 6.4 | Addiction | 1.4 |
| Stress | 1.1 | 0.7 | Stress | 6.4 |
| Psych and pain issues | 0.4 | 0.0 | Psych and pain issues | 10.0 |
| Other mental health issues | 6.6 | 4.4 | Other mental health issues | 5.6 |

Note. PsyPsych = Psychotherapists treating psychological issues; PsyCAM = CAM practitioners treating psychological issues. Problems in living = relationship issues, work issues, unemployment, sleep problems. Other in the PsyCAM group include = chiropractors, massage therapists, naturopaths, pastors, priests, biofeedback practitioners, herbal practitioners, guided imagery instructors, Tai Chi instructors, art therapy practitioners, Ayurveda practitioners, folk medicine practitioners, osteopaths, spiritual healers, and mega-vitamin practitioners.

Table 4.

Primary Health Issues for PainChir, PainMass, and PainAcu treatment groups.

| Primary T _x issue | PainChir Part I (n = 518) | PainChir Part II (n = 134) | PainMass (n = 234) | PainAcu (n = 100) |
|------------------------------------|------------------------------|-------------------------------|-----------------------|----------------------|
| Back pain/issues | 61.5 | 55.2 | 52.4 | 46.2 |
| Other pain issues | 36.0 | 44.0 | 44.0 | 49.5 |
| Pain plus physical health problems | 2.5 | 0.7 | 2.1 | 4.3 |
| Pain plus psychological issues | 0.0 | 0.0 | 1.6 | 0.0 |

Note. PainChir = Chiropractors treating pain issues; PainMass = Massage therapists treating pain issues; PainAcu = Acupuncturists treating pain issues. “Other pain issues” includes pain in various parts of the body, joint and muscle stiffness, nerve pain, headaches, migraines, arthritic pain, and fibromyalgia.

Table 5. Demographic Information for Treatment Groups Used in the Longitudinal Model Compared to the Full Samples.

| | PsyPsych Baseline (n = 686) | PsyPsych Longitudinal (n = 138) | PainChir Baseline (n = 518) | PainChir Longitudinal (n = 134) |
|--|-----------------------------------|---------------------------------------|-----------------------------------|---------------------------------------|
| Age (SD) | 29.2 (10.1) | 34.3 (10.9)* | 32.4 (10.2) | 37.0 (10.4)* |
| Income, in thousands (SD) ‡ | 36.1 (22.4) | 34.8 (21.8) | 43.1 (21.9) | 41.0 (22.0) |
| T _x Issue Severity (SD) | 7.7 (2.0) | 7.9 (1.8) | 7.2 (2.0) | 7.6 (1.8)* |
| ORS (SD) | 17.3 (8.8) | 16.8 (9.2) | 25.5 (8.1) | 25.9 (8.0) |
| GP-CORE (SD) | 30.4 (9.0) | 29.3 (9.7) | 20.9 (9.6) | 19.4 (9.5)* |
| PHS-15 (SD) | 8.9 (5.2) | 8.7 (4.9) | 6.9 (4.2) | 6.4 (3.8) |
| Improvement (SD) | 3.5 (1.0) | 3.5 (0.9) | 3.7 (0.9) | 3.8 (0.9) |
| T _x Satisfaction (SD) | 8.1 (1.7) | 8.2 (1.3) | 8.6 (1.3) | 8.6 (1.3) |
| Gender (% female) | 58 | 62 | 53 | 61* |
| Completed college/uni. (%) | 44 | 55* | 51 | 51 |
| Ethnicity (%) | | * | | |
| Caucasian | 72.4 | 80.1 | 77.3 | 83.6 |
| Asian | 10.9 | 3.7 | 9.1 | 4.5 |
| African American | 7.3 | 6.6 | 4.6 | 4.5 |
| Hispanic | 4.8 | 4.4 | 6.4 | 6.0 |
| Other | 4.6 | 5.1 | 2.7 | 1.4 |
| # of T _x sessions at time 1 (%) | | | | |
| One | 47.0 | 48.6 | 40.6 | 38.8 |
| Two | 22.1 | 20.7 | 29.0 | 30.6 |
| Three | 11.0 | 12.9 | 8.5 | 7.5 |
| Four | 6.5 | 4.3 | 6.7 | 6.7 |
| Five or more | 11.0 | 13.6 | 12.9 | 16.4 |

Note. ‡ Income means for each group excluded students, and values were capped at +2SD. PsyPsych = Psychotherapists treating psychological issues; PainChir = Chiropractors treating pain. Issue Severity and Satisfaction were both rated 1 to 10. ORS = Outcome Rating Scale (from 0 to 40; higher = better); GP-CORE = General Population Clinical Outcomes in Routine Evaluation scale (from 1 to 56; higher scores = higher severity); PHS-15 = Patient Health Questionnaire (from 0 to 30; higher scores = more symptoms).

* Indicates a significant difference ($p < .05$) between those who completed the follow-up and those who did not.

Table 6.

Percent of Variance Explained in Each Common Factor by the Other Three Predictor Factors (R^2 values).

| Predictors | PsyPsych (<i>n</i> = 686) | PsyCAM (<i>n</i> = 155) | PainChir (<i>n</i> = 518) | PainMass (<i>n</i> = 234) | PainAcu (<i>n</i> = 100) |
|---------------------|-------------------------------|-----------------------------|-------------------------------|-------------------------------|------------------------------|
| Rogerian | .48 | .47 | .37 | .39 | .53 |
| Credibility | .61 | .53 | .60 | .60 | .50 |
| Healing Setting | .49 | .53 | .62 | .49 | .46 |
| Treatment Rationale | .53 | .56 | .64 | .34 | .62 |

Note. PsyPsych = Psychotherapists treating psychological issues; PsyCAM = CAM practitioners treating psychological issues; PainChir = Chiropractors treating pain issues; PainMass = Massage therapists treating pain issues; PainAcu = Acupuncturists treating pain issues. All R^2 values were significant at $p < .001$.

Table 7.

Correlations Between Exogenous Factors in the PsyPsych Group.

| Variables | 1 | 2 | 3 | 4 |
|------------------------|---------------------|-------|-------|-------|
| 1. Rogerian | | | | |
| 2. Credibility | .62** | | | |
| 3. Healing Setting | .47** | .65** | | |
| 4. Treatment Rationale | .57** | .65** | .63** | |
| 5. Baseline Severity | .04 ^{n.s.} | .16** | .14** | .14** |

Note: ** $p < .001$, *n.s.* = not significant. PsyPsych = Psychotherapists treating primarily psychological issues.

Table 8.

Correlations Between Exogenous Factors in the PsyCAM Group.

| Variables | 1 | 2 | 3 | 4 |
|------------------------|---------------------|-------|-------|-------|
| 1. Rogerian | | | | |
| 2. Credibility | .64** | | | |
| 3. Healing Setting | .50** | .63** | | |
| 4. Treatment Rationale | .64** | .67** | .67** | |
| 5. Baseline Severity | .04 ^{n.s.} | .15** | .14** | .14** |

Note: ** $p < .001$, *n.s.* = not significant. PsyCAM = CAM practitioners treating primarily psychological issues.

Table 9.

Correlations Between Exogenous Factors in the PainChir Group.

| Variables | 1 | 2 | 3 | 4 |
|------------------------|---------------------|-------|-------|-------|
| 1. Rogerian | | | | |
| 2. Credibility | .60** | | | |
| 3. Healing Setting | .49** | .69** | | |
| 4. Treatment Rationale | .57** | .68** | .71** | |
| 5. Baseline Severity | .04 ^{n.s.} | .16** | .15** | .15** |

Note: ** $p < .001$, *n.s.* = not significant. PainChir = Chiropractors treating pain-related issues.

Table 10.

Correlations Between Exogenous Factors in the PainMass Group.

| Variables | 1 | 2 | 3 | 4 |
|------------------------|---------------------|-------|-------|-------|
| 1. Rogerian | | | | |
| 2. Credibility | .60** | | | |
| 3. Healing Setting | .44** | .70** | | |
| 4. Treatment Rationale | .47** | .63** | .59** | |
| 5. Baseline Severity | .03 ^{n.s.} | .14** | .13** | .11** |

Note: ** $p < .001$, *n.s.* = not significant. PainMass = Massage therapists treating pain-related issues.

Table 11.

Correlations Between Exogenous Factors in the PainAcu Group.

| Variables | 1 | 2 | 3 | 4 |
|------------------------|---------------------|-------|-------|-------|
| 1. Rogerian | | | | |
| 2. Credibility | .67** | | | |
| 3. Healing Setting | .53** | .68** | | |
| 4. Treatment Rationale | .58** | .62** | .63** | |
| 5. Baseline Severity | .04 ^{n.s.} | .17** | .16** | .15** |

Note: ** $p < .001$, *n.s.* = not significant. PainAcu = Acupuncturists treating pain-related issues.

Table 12.

Standardized Path Coefficients with 95% C.I. for the Cross-sectional Multi-group SEM Model.

| Predicted variable | Predictors | PsyPsych (n = 686) | 95% C.I. | PsyCAM (n = 155) | 95% C.I. | PainChir (n = 518) | 95% C.I. | PainMass (n = 234) | 95% C.I. |
|--------------------|--------------------------|-----------------------|--------------|---------------------|-------------|-----------------------|---------------|-----------------------|--------------|
| Improv. | Hope | .49* | [.30, .68] | .31 | [-.09, .70] | .56* | [.31, .81] | .42* | [.04, .79] |
| | B. Severity | -.10* | [-.17, -.04] | .07 | [-.10, .24] | -.08* | [-.17, -.001] | -.16* | [-.28, -.03] |
| Hope | Rogierian | .10* | [.03, .17] | .19 | [-.02, .41] | .11* | [.005, .21] | .23* | [-.10, .24] |
| | Credibility | .28* | [.20, .37] | .08 | [-.15, .30] | .17* | [.06, .28] | .06 | [-.05, .11] |
| | Healing Setting | .12* | [.03, .21] | .26 | [-.06, .58] | .11 | [-.02, .24] | .27* | [.11, .43] |
| | T _x Rationale | .51* | [.42, .61] | .43* | [.18, .68] | .60* | [.48, .71] | .47* | [.34, .61] |

Note. Improv. = Perceived improvement of the main treatment issue measured with a single item; B. Severity = Baseline Severity.

PsyPsych = Psychotherapists treating psychological issues; PsyCAM = CAM practitioners treating psychological issues; PainChir = Chiropractors treating pain issues; PainMass = Massage therapists treating pain issues.

* Significant at 5% based on the confidence interval.

Table 13.

Standardized Coefficients with 95% C.I. for the Direct, Indirect, and Total Effects in the Cross-sectional Multi-group SEM Model.

| Effect type | Predictors | PsyPsych (n = 686) | 95% C.I. | PsyCAM (n = 155) | 95% C.I. | PainChir (n = 518) | 95% C.I. | PainMass (n = 234) | 95% C.I. |
|-------------|--------------------------|-----------------------|--------------|---------------------|-------------|-----------------------|--------------|-----------------------|-------------|
| Total | | | | | | | | | |
| | Rogerian | .14* | [.04, .24] | .43* | [.14, .72] | .12 | [-.006, .24] | .01 | [-.20, .21] |
| | Credibility | .17* | [.05, .28] | -.01 | [-.29, .27] | .33* | [.19, .48] | .21 | [-.03, .46] |
| | Healing Setting | -.03 | [-.15, .10] | .06 | [-.26, .38] | -.20* | [-.37, -.03] | -.07 | [-.29, .15] |
| | T _x Rationale | .39* | [.28, .50] | .10 | [-.19, .39] | .25* | [.08, .41] | .37* | [.18, .56] |
| Indirect | | | | | | | | | |
| | Rogerian | .05* | [.01, .09] | .06 | [-.04, .16] | .06 | [-.003, .13] | .09 | [-.01, .20] |
| | Credibility | .14* | [.07, .21] | .02 | [-.07, .11] | .10* | [.02, .17] | .03 | [-.05, .11] |
| | Healing Setting | .06* | [.004, .11] | .08 | [-.12, .28] | .06 | [-.02, .14] | .11 | [-.02, .25] |
| | T _x Rationale | .25* | [.14, .36] | .13 | [-.05, .31] | .36* | [.17, .50] | .20* | [.003, .39] |
| Direct | | | | | | | | | |
| | Rogerian | .09 | [-.007, .18] | .37* | [.07, .68] | .06 | [-.06, .17] | -.09 | [-.31, .13] |
| | Credibility | .03 | [-.10, .16] | -.03 | [-.29, .23] | .24* | [.08, .39] | .17 | [-.06, .41] |
| | Healing Setting | -.08 | [-.21, .04] | -.02 | [-.43, .39] | -.27* | [-.43, -.10] | -.18 | [-.41, .06] |
| | T _x Rationale | .13 | [-.02, .29] | -.03 | [-.34, .28] | -.09 | [-.32, .14] | .17 | [-.07, .42] |

Note. Outcome variable is the perceived improvement of the main treatment issue, measured with a single item. PsyPsych = Psychotherapists treating psychological issues; PsyCAM = CAM practitioners treating psychological issues; PainChir = Chiropractors treating pain issues; PainMass = Massage therapists treating pain issues.

* Significant at 5% based on the confidence interval.

Table 14.

Standardized Path Coefficients with 95% C.I. for the Longitudinal Multi-group SEM Model.

| Predicted variable | Predictors | PsyPsych | 95% C.I. | PainChir | 95% C.I. |
|--------------------|--------------------------|-------------------|--------------|-------------------|-------------|
| Follow-up Severity | | (<i>n</i> = 138) | | (<i>n</i> = 134) | |
| | Hope | -.48* | [-.93, -.03] | .33 | [-.08, .75] |
| | Baseline Severity | .37* | [.16, .58] | .31* | [.13, .50] |
| Hope | | (<i>n</i> = 664) | | (<i>n</i> = 506) | |
| | Rogerian | .10* | [.03, .18] | .11* | [.006, .22] |
| | Credibility | .29* | [.20, .37] | .18* | [.06, .29] |
| | Healing Setting | .11* | [.02, .21] | .10 | [-.03, .23] |
| | T _x Rationale | .52* | [.43, .61] | .60* | [.48, .71] |

Note. PsyPsych = Psychotherapists treating psychological issues; PainChir = Chiropractors treating pain-related issues.

* Significant at 5% based on the confidence interval.

Table 15.

Standardized Coefficients with 95% C.I. for the Direct, Indirect, and Total Effects in the Longitudinal Multi-group SEM Model.

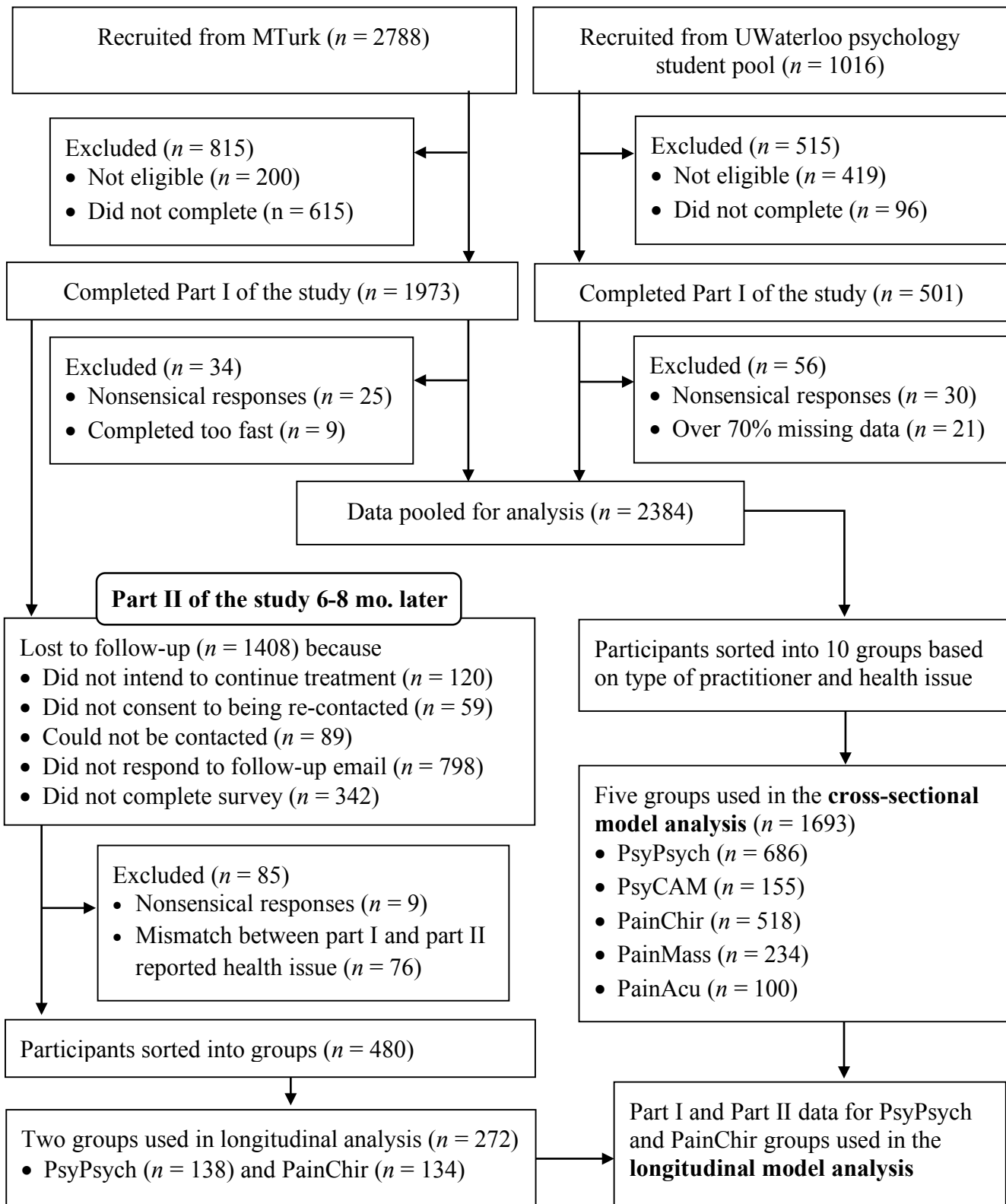
| Effect type | Predictors | PsyPsych (n = 138) | 95% C.I. | PsyChir (n = 134) | 95% C.I. |
|-------------|--------------------------|--------------------|---------------|-------------------|---------------|
| Total | | | | | |
| | Rogerian | -.07 | [-.38, .25] | -.20 | [-.42, .006] |
| | Credibility | -.07 | [-.35, .22] | .17 | [-.15, .49] |
| | Healing Setting | .04 | [-.24, .32] | .05 | [-.26, .38] |
| | T _x Rationale | -.05 | [-.36, .27] | -.28* | [-.56, -.005] |
| Indirect | | | | | |
| | Rogerian | -.05 | [-.11, .01] | .04 | [-.03, .10] |
| | Credibility | -.14* | [-.27, -.001] | .06 | [-.03, .14] |
| | Healing Setting | -.05 | [-.12, .01] | .04 | [-.04, .10] |
| | T _x Rationale | -.25* | [-.49, -.007] | .20 | [-.06, .46] |
| Direct | | | | | |
| | Rogerian | -.02 | [-.34, .31] | -.24* | [-.46, -.03] |
| | Credibility | .07 | [-.24, .39] | .11 | [-.22, .46] |
| | Healing Setting | .09 | [-.20, .39] | .01 | [-.34, .36] |
| | T _x Rationale | .20 | [-.17, .57] | -.48* | [-.83, -.13] |

Note. Outcome variable is the reported severity of the main treatment issue at follow-up, controlled for baseline severity. PsyPsych = Psychotherapists treating psychological issues; PainChir = Chiropractors treating pain issues.

* Significant at 5% based on the confidence interval.

Figure 1.

Flow of participants through each stage of the study.



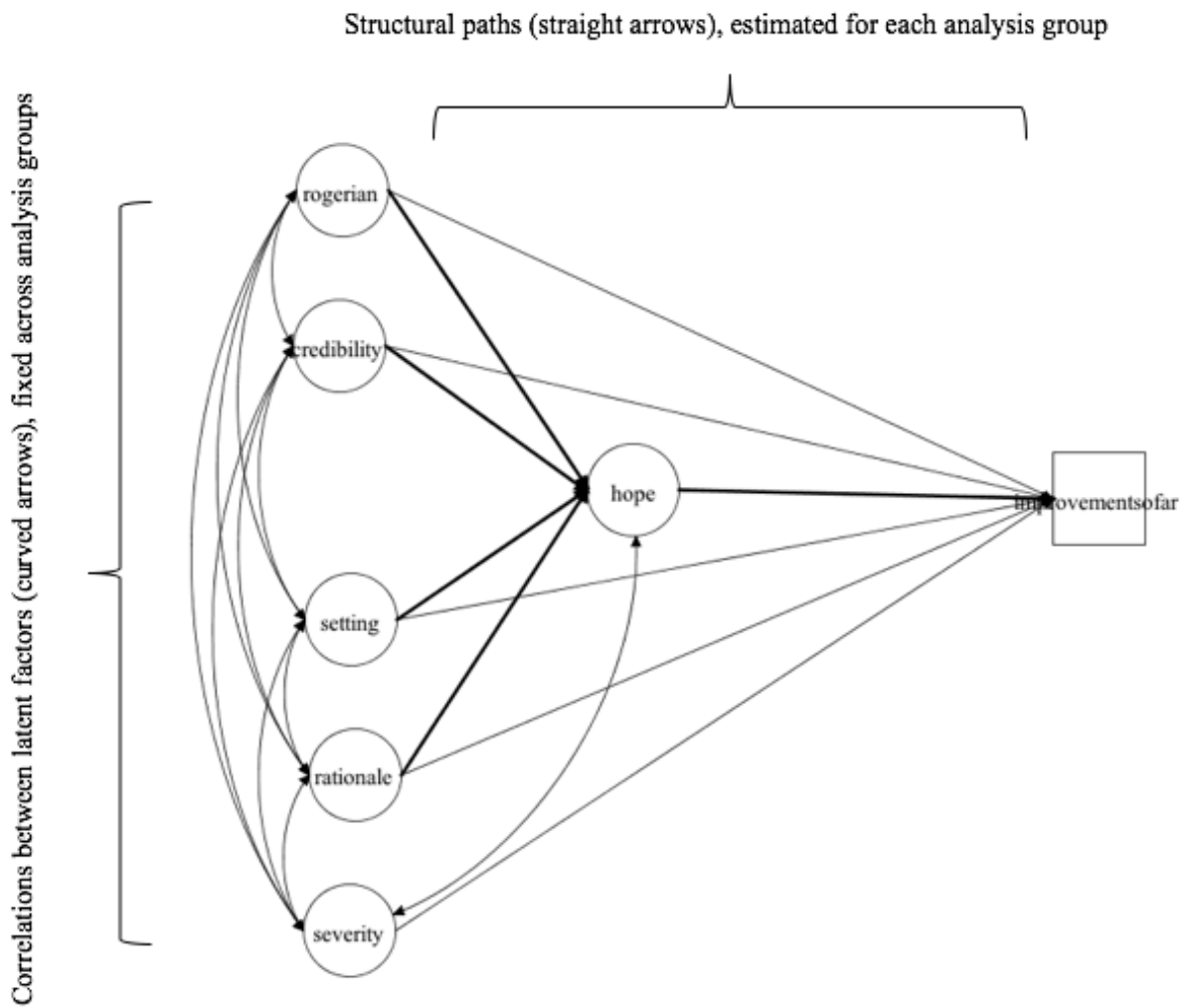


Figure 2. Structural model for the cross-sectional analysis.

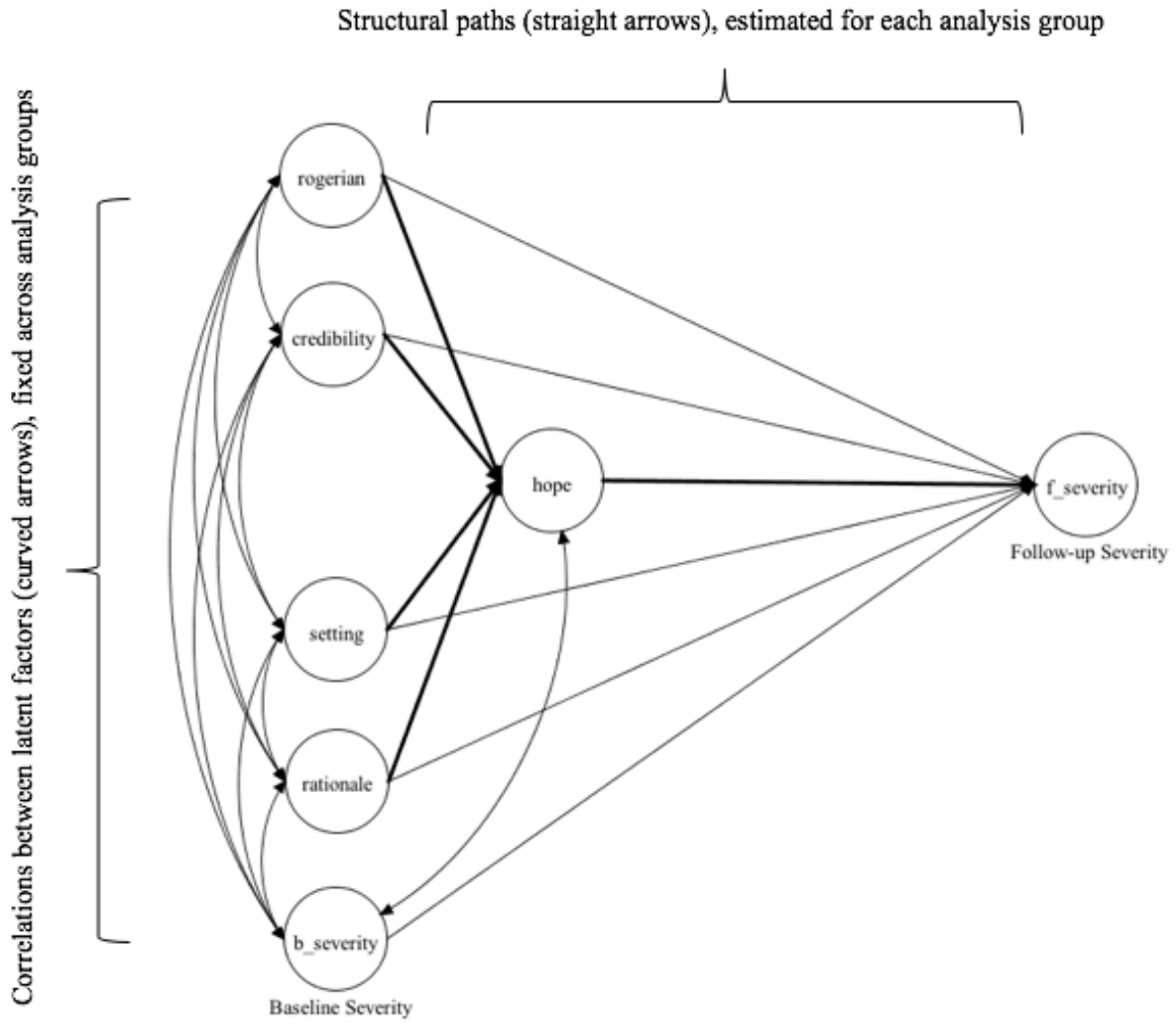
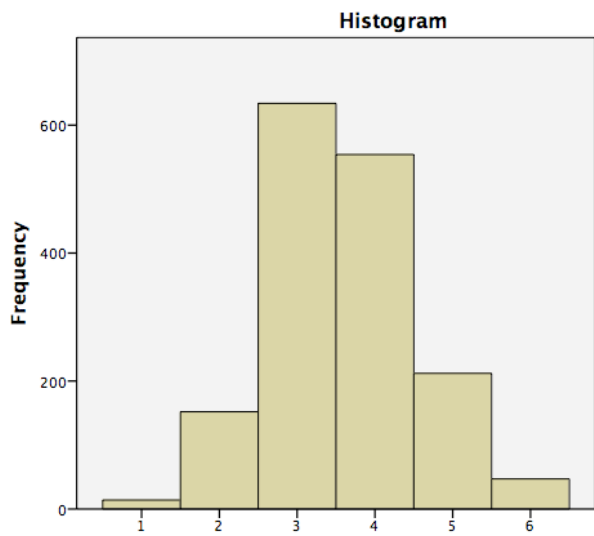
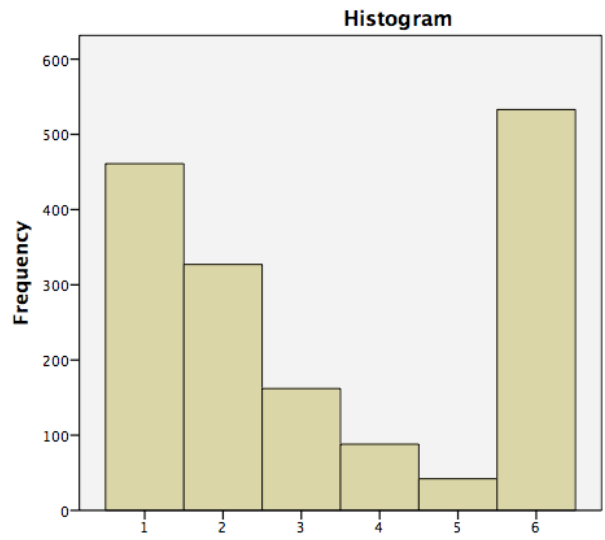


Figure 3. Structural model for the multi-group longitudinal analysis.



Item 5: "... feels a true liking for me."



Item 9: "... is indifferent to me."

Figure 4. Example of typical response distributions for positively worded and reverse scored items. Both items presented are from the Level of Regard subscale of the BLRI. Items were rated on a -3 (strongly disagree) to +3 (strongly agree) 6-point scale.

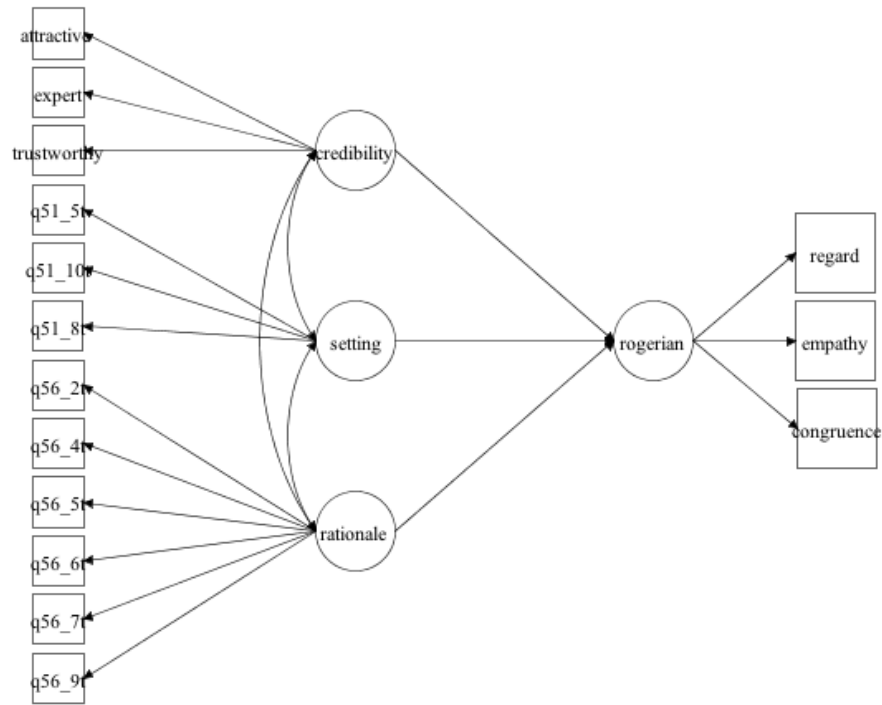


Figure 5. Multi-group SEM diagram with measurement models for the Rogerian factor predicted by credibility, healing setting, and treatment rationale.

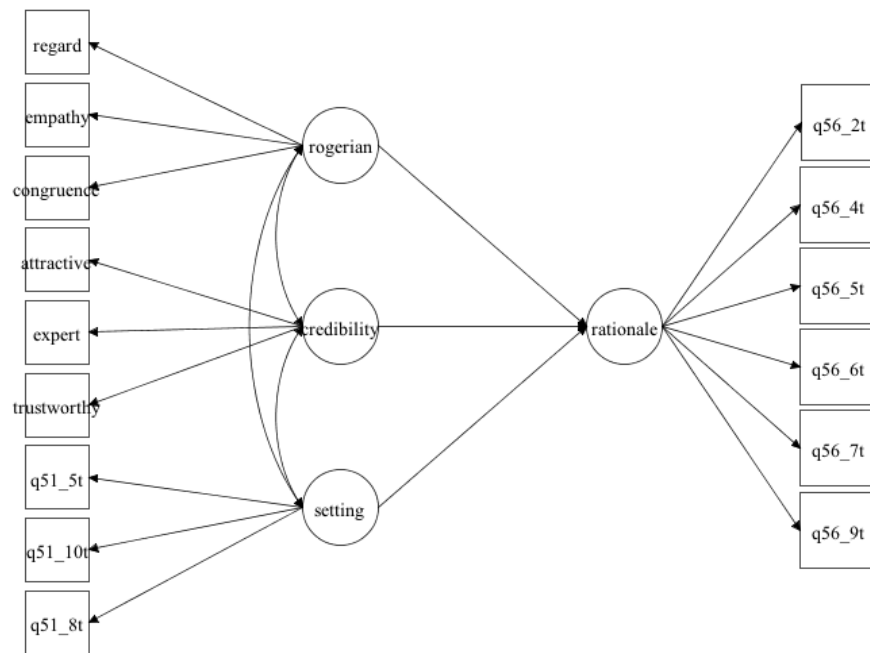


Figure 6. Multi-group SEM diagram with measurement models for the treatment rationale predicted by the Rogerian factor, credibility, and healing setting.

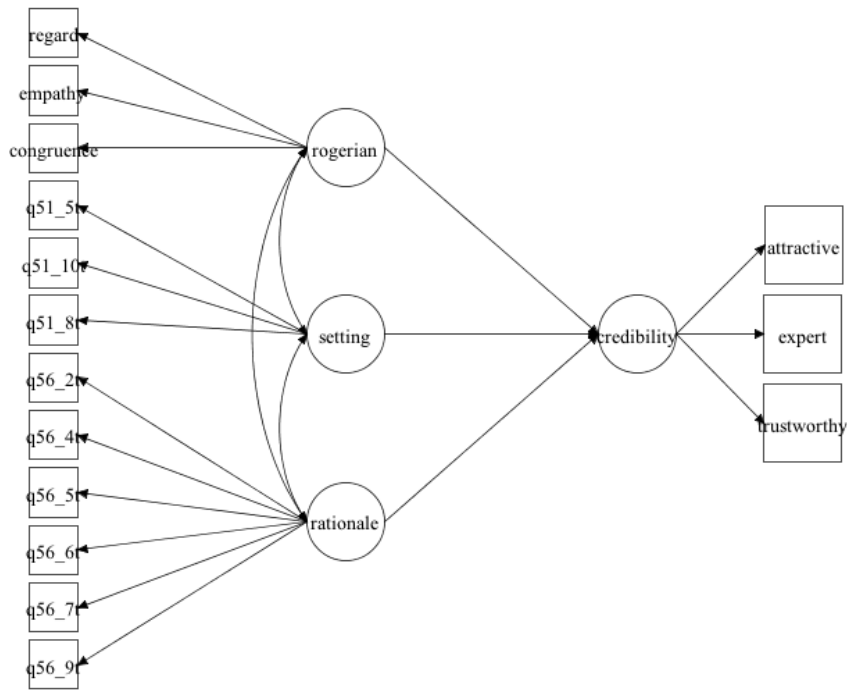


Figure 7. Multi-group SEM diagram with measurement models for the credibility predicted by the Rogerian factor, healing setting, and treatment rationale.

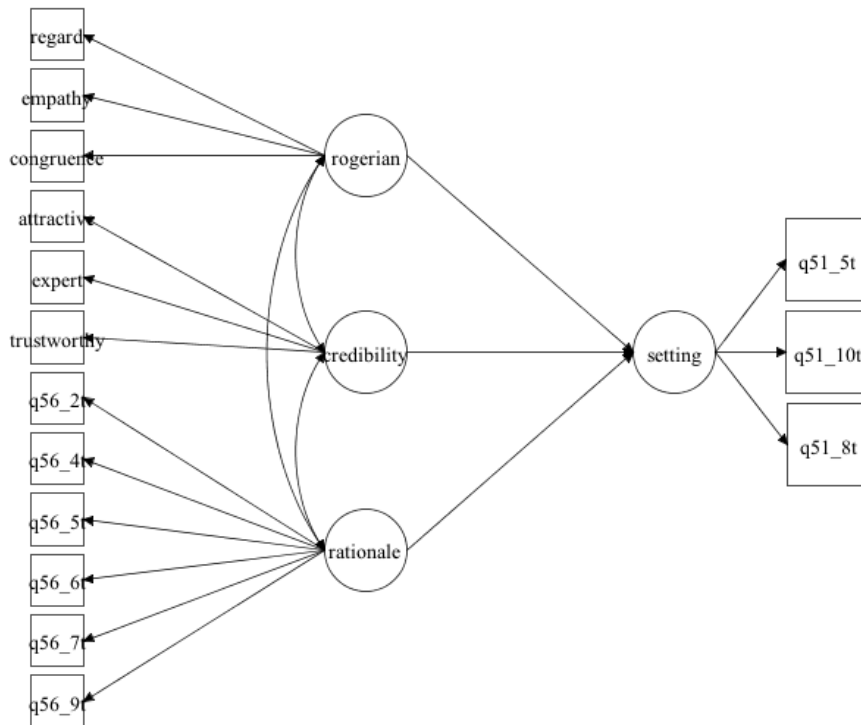


Figure 8. Multi-group SEM diagram with measurement models for the healing setting predicted by the Rogerian factor, credibility, and treatment rationale.

Appendix A

Table 1A. *ESEM Results for Treatment Rationale Items Using ML Estimation and Geomin Oblique Rotation (n = 1693).*

| Factor Loadings | | | | | |
|--|------------|------------|------|------|------|
| Item | 1 | 2 | 3 | 4 | 5 |
| 1. ... explained to me what is causing the issue for which I sought treatment | .73 | .03 | .07 | -.26 | -.08 |
| 2. ... explained to me why the specific treatment was chosen | .75 | -.02 | .44 | -.02 | -.01 |
| 3. ... didn't tell me much about why I am having the problem for which I sought help | -.02 | .60 | -.01 | .40 | -.02 |
| 4. ...'s explanation of my problem makes a lot of sense | .76 | -.09 | -.08 | .01 | .04 |
| 5. I have learned a lot from ... about the problem for which I sought help | .86 | .03 | -.05 | .08 | .24 |
| 6. I have a clear understanding of how the treatment that ... recommended will help my problem | .91 | -.01 | .05 | .30 | -.02 |
| 7. ... helped me understand the reasons why I am having the problem for which I sought help | .79 | -.05 | -.11 | -.06 | .00 |
| 8. I have doubts about ...'s explanation for my problem | -.02 | .76 | .04 | -.04 | .01 |
| 9. ... gave me a lot of information about my problem | .64 | -.05 | .01 | -.11 | .25 |
| 10. After talking to ... I still don't fully understand what is causing my problems | -.04 | .70 | .13 | .05 | .10 |
| 11. I don't feel like I learned much from ... | -.03 | .79 | -.02 | .02 | -.22 |
| 12. I don't really understand why ... recommended what he or she did | .05 | .89 | -.05 | -.12 | -.10 |

Note: Factor loadings over .50 appear in bold. Model fit: CFI = .999, SRMR = .005, RMSEA = .025, 90% CI [.013, .037].

Table 2A. *Correlations Between Five Geomin-rotated Treatment Rationale Factors.*

| Factors | 1 | 2 | 3 | 4 |
|---------|-------|------|------|-----|
| 1. | – | | | |
| 2. | -.74* | – | | |
| 3. | .00 | -.02 | – | |
| 4. | -.33* | .07 | -.09 | – |
| 5. | .22* | .18* | -.15 | .08 |

Note: * $p < .05$.

Table 3A. *ESEM Results for Hope Items Using ML Estimation and Geomin Oblique Rotation (n = 1693).*

| Item | Factor Loadings | | | | |
|--|-----------------|------------|------------|------------|------------|
| | 1 | 2 | 3 | 4 | 5 |
| 1. I am confident that ... can help me get better | .68 | .03 | -.02 | .18 | -.01 |
| 2. ... doesn't motivate me to work on my issues | .00 | -.06 | .68 | -.03 | -.03 |
| 3. * Seeing ... helps me see that there are lots of ways to solve my problems | .07 | .62 | -.01 | .19 | -.05 |
| 4. * I can think of ways to be an active participant in my treatment | .02 | .69 | -.03 | .06 | .06 |
| 5. I am confident that ... can help me with the issues for which I am seeking treatment | .81 | .11 | -.01 | -.05 | .08 |
| 6. * Even when my problems feel significant, I know ...'s treatment can help | .61 | .01 | .01 | .29 | .03 |
| 7. I am not sure that the recommended treatment will enable me to make the necessary changes in my life to deal with the problems for which I seek treatment | -.23 | .04 | .51 | -.07 | .06 |
| 8. ... conveys his/her conviction that my problems are solvable | .10 | .10 | -.05 | .00 | .59 |
| 9. I do not think ...'s treatment will help me much | -.35 | .04 | .56 | -.04 | .02 |
| 10. * When I feel stuck, I am confident that ... can help motivate me | .04 | .06 | -.03 | .71 | .03 |
| 11. * Thinking about the changes I can make in my life through ...'s treatment is exciting | -.02 | .05 | .00 | .78 | .01 |
| 12. ... conveys his/her conviction that my condition will improve | .00 | -.02 | .01 | .19 | .82 |
| 13. * Seeing ... for treatment lifts my spirits | .11 | .01 | -.06 | .64 | .09 |
| 14. * I can identify many ways to make improvements with ...'s help | -.01 | .31 | .01 | .38 | .04 |
| 15. * Seeing ... doesn't help me identify ways to improve my well-being | .02 | -.20 | .71 | .09 | -.07 |

Note: Factor loadings over .50 appear in bold. Model fit: CFI = .993, SRMR = .010, RMSEA = .039, 90% CI [.032, .046].

* Items were adapted from Hope for Change Through Counselling scale (Bartholomew et al., 2015).

Table 4A. *Correlations Between Five Geomin-rotated Hope Factors.*

| Factors | 1 | 2 | 3 | 4 |
|---------|------|------|------|-----|
| 1. | – | | | |
| 2. | .68 | – | | |
| 3. | -.58 | -.43 | – | |
| 4. | .75 | .73 | -.49 | – |
| 5. | .56 | .57 | -.46 | .66 |

Note: All significant at $p > .05$.

Table 5A. ESEM Results for Positively Worded Hope Items Using ML Estimation and Geomin Oblique Rotation ($n = 1693$).

| Factor Loadings | | | | |
|--|------------|------------|------------|------------|
| Item | 1 | 2 | 3 | 4 |
| 1. I am confident that ... can help me get better | .70 | .03 | .18 | -.02 |
| 5. I am confident that ... can help me with the issues for which I am seeking treatment | .86 | .04 | -.03 | .07 |
| 6. Even when my problems feel significant, I know ...'s treatment can help | .64 | -.02 | .31 | -.01 |
| 3. Seeing ... helps me see that there are lots of ways to solve my problems | -.01 | .94 | .00 | -.01 |
| 4. I can think of ways to be an active participant in my treatment | .13 | .44 | .12 | .13 |
| 10. When I feel stuck, I am confident that ... can help motivate me | .05 | .08 | .71 | .03 |
| 11. Thinking about the changes I can make in my life through ...'s treatment is exciting | -.02 | .08 | .78 | -.01 |
| 13. Seeing ... for treatment lifts my spirits | .15 | -.01 | .64 | .10 |
| 8. ... conveys his/her conviction that my problems are solvable | .09 | .07 | -.02 | .69 |
| 12. ... conveys his/her conviction that my condition will improve | -.03 | -.02 | .25 | .74 |

Note. Factor loadings over .40 appear in bold. Model fit: CFI = .998, SRMR = .005, RMSEA = .030, 90% CI [.016, .044].

Table 6A. Correlations Between Four Geomin-rotated Hope Factors.

| Factors | 1 | 2 | 3 |
|---------|-----|-----|-----|
| 1. | – | | |
| 2. | .66 | – | |
| 3. | .76 | .71 | – |
| 4. | .60 | .53 | .67 |

Note: All significant at $p > .05$.

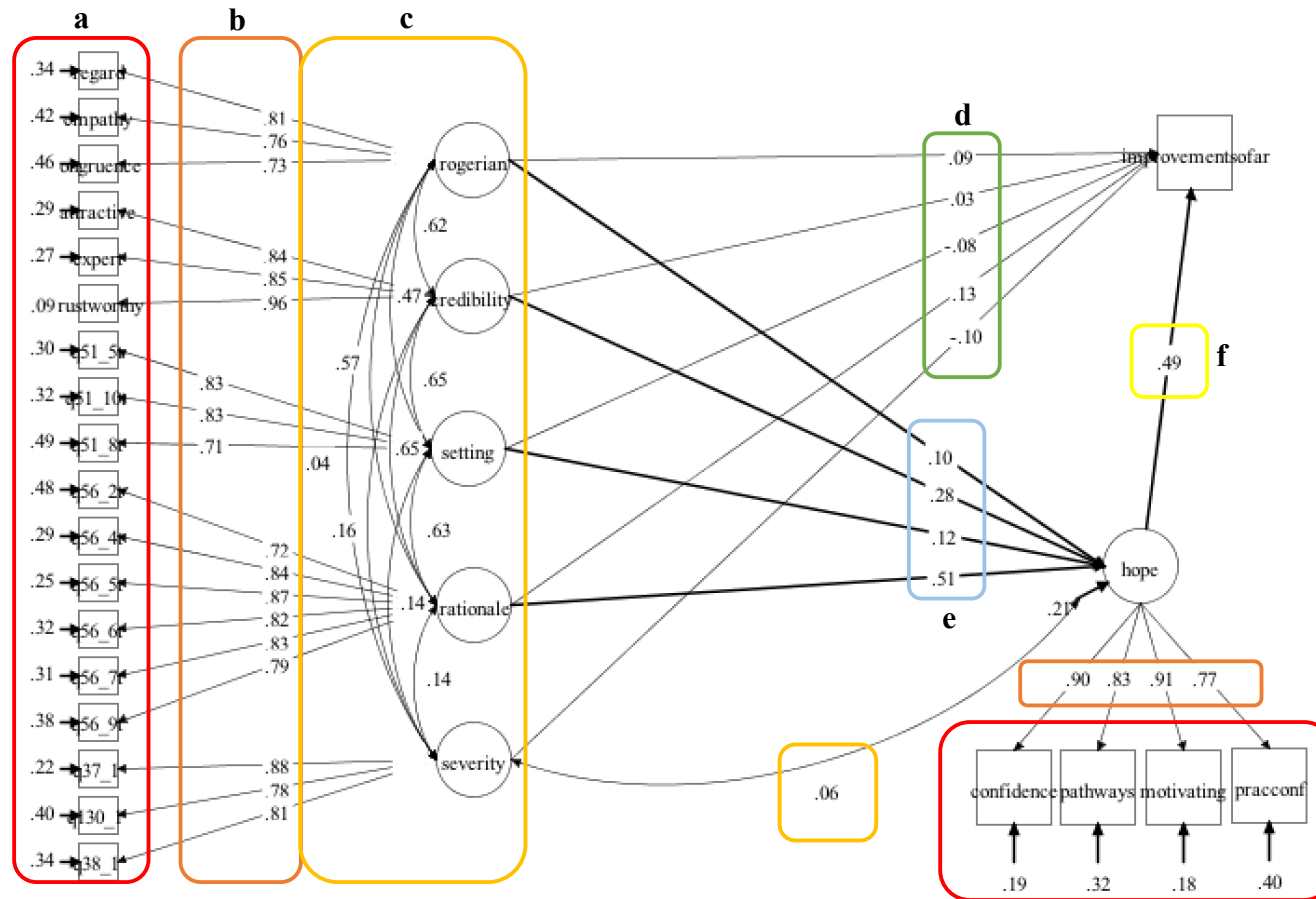
Appendix B

Table 1B. *Factor Loadings for Measurement Models (n = 1693)*

| Factor | Indicator | Factor loadings |
|--------------------------------|--|-----------------|
| Rogerian | | |
| ($\alpha = .87$) | Empathy ($\alpha = .76$) | .79 |
| | Level of Regard ($\alpha = .79$) | .84 |
| | Congruence ($\alpha = .62$) | .75 |
| Credibility | | |
| ($\alpha = .95$) | Attractiveness ($\alpha = .90$) | .84 |
| | Expertness ($\alpha = .89$) | .84 |
| | Trustworthiness ($\alpha = .90$) | .98 |
| Setting | | |
| ($\alpha = .95$) | I feel comfortable in the place where I have my appointments with ... | .81 |
| | I feel safe in the place where I have my appointments with ... | .86 |
| | The place where I have my appointments with ... looks professional | .72 |
| T_x Rationale | | |
| ($\alpha = .92$) | ... explained to me why the specific treatment was chosen | .72 |
| | ...’s explanation of my problem makes a lot of sense | .83 |
| | I have learned a lot from ... about the problem for which I sought help | .88 |
| | I have a clear understanding of how the treatment that ... recommended will help my problem | .82 |
| | ... helped me understand the reasons why I am having the problem for which I sought help | .84 |
| | ... gave me a lot of information about my problem | .78 |
| Hope | | |
| | Confidence in treatment ($\alpha = .90$) | .86 |
| | Seeing possibilities (pathways; $\alpha = .74$) | .76 |
| | Motivation and excitement ($\alpha = .85$) | .89 |
| | Practitioner confidence in treatment success ($\alpha = .81$) | .74 |
| Severity | | |
| | Overall, how much did the issues ... bother you? | .89 |
| | Overall, how distressing were the issues ...? | .79 |
| | Overall, how much did the issues ... interfere with your life? | .80 |

Note. All factor loadings were significant at $p < .001$. Measurement model fit for T_x Rationale factor: CFI = .994, SRMR = .012, RMSEA = .053, 90% CI [.040, .068]. Measurement model fit for Hope factor: CFI = .999, SRMR = .005, RMSEA = .029, 90% CI [.00, .063]. Other measurement models are just-identified. For Severity items, “issues ...” stands for “issues for which you sought treatment with [initials of the participant’s practitioner].”

Appendix C



Black square boxes represent measured variables, and circles represent latent variables. Measurement models are represented by **a**, **b**, and **c**. Box **a** shows indicators of each factor and corresponding error variances. Box **b** shows standardized factor loadings for each indicator. The unstandardized loadings are the same across treatment groups. Box **c** shows the exogenous latent factors and correlations between the factors (curved arrows). The correlations are similar across treatment groups because the unstandardized covariances based on which the correlations are calculated have been fixed across groups. Boxes **d**, **e**, and **f** show standardized path coefficients. Box **d** shows direct effects of exogenous factors on outcomes (improvementssofar; single item measure). Indirect effects are represented by paths **e** and **f** (e.g., .10 times .49 = .049 for the Rogerian factor). The total effects are calculated as **d** + **e*****f** (e.g., .09 + .049 = .139 for the Rogerian factor).

Figure 1C. Example of the cross-sectional structural diagram with measurement models for the PsyPsych group.