

**School of Psychology  
Faculty of Health Sciences**

**The Study of Supershrinks:  
Development and Deliberate Practices of Highly Effective Psychotherapists**

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**This thesis is presented for the Degree of  
Doctor of Philosophy  
of  
Curtin University**

**March 2014**

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## Declaration

To the best of my knowledge and belief this thesis contains no materials previously published by any other person except where due acknowledgement has been made.

This thesis contains no materials, which has been accepted for the award of any other degree or diploma in any university.

Signature:

A handwritten signature in black ink, appearing to be 'Joseph', written over a horizontal line.

Date:

13 August 2014

## Acknowledgements

*“Each one of us must make his own true way, and when we do, that way will express the universal way... When you understand one thing through and through, you understand everything. When you try to understand everything, you will not understand anything.”*

- Shunryu Suzuki

*“Without education, we are in a horrible and deadly danger of taking educated people seriously.”*

- G.K. Chesterton

*The only person who is educated is the one who has learned to learn and change.*

- Carl Rogers

It's a myth that a PhD discourse is an “independent” work. Most imagine the student indulging in solitary time reading, mulling, analysing, mulling, and hopefully, some writing. Though this meditation required a great deal of me, the PhD process is more like a lesson in interdependence. I am deeply thankful for the people involved in this journey because they made it joyful for me to be actively learning and discovering. My relationship with this community of caring and nurturing individuals carried me through. To all these wonderful folks listed below, I raise a glass to you. For those who think your name should be listed below and isn't, drinks are on me the next time we meet.

### Professional

Scott D. Miller: For your devotion to this project, and even the years before I embarked on this research. I remember in our initial conversation, you insisted that I see you as an equal. I will never forget this life lesson on treating others on equal grounds. For your willingness to work through this back-and-forth process, for brainstorming ideas and constructing the protocol together, for sponsoring my training in Chicago, and for your personal time. You are a deep river for me. Your mentorship and friendship is etched in my heart.

Jenny Thornton: I appreciate your on-going guidance and continued checking-in with me, making sure that I didn't drift too far into space and bringing me back to the ground when needed. Thanks for being there, and making it a good environment for me.

Robert Kane: For your willingness to invest so much time with me, bouncing statistical ideas back and forth. I don't know if you know this, our journey together has taught me well beyond the numbers.

K. Anders Ericsson: I recall our first meeting at ACE conference 2010, and what you told me about "passing it on." At our second ACE conference 2013, you reminded me of your continued support. Thank you for your continued guidance and encouragement. It meant a great deal to me. You left a personal imprint of what it means to be a true professional.

Bruce Wampold: You have been instrumental in inspiring me to go into the woods of psychotherapy research. Your years of research and writing have been like a pillar that I could lean on.

William Andrews: Quite frankly, without you, the project is screwed. Thank you for being this crazy to place your trust in me and to support me in this endeavor.

Participating therapists: We all know how hard it is to get surveys done. Thank you for supporting this research, for taking the time to spare, and allowing me to learn from your experiences. I also thank all your clients for indirectly helping us to be better at our craft. They are blessed to have your healing touch.

Robbie Wagner: Even though the research with your organisation didn't take off, I am sure we will in the future. Thank you for your support.

Bill Robinson, Sharon Lu, Eeuwe Schuckard: Thank you all for your patience with me in the pilot testing of the research protocol. I treasure your friendship.

SPOT Team members: Duane, Tandy, Jo, Danielle, Sean, Lou, Dave, and Tom. It's such a joy to be part of this family in Australia. Keep on rockin'!

### **Personal**

My wife, Liqin: For allowing me this period of meditation. For providing the foundations of which I rest upon. Your love, patience, and willingness for an adventure in down under made this possible. Words fail me here.

My daughter, Amelia: You represent the endless flowing joy in our lives. You were born just after this was completed! I thank God for the gift of you.

Parents: So much quiet sacrifices precede the possibility for me to work on my PhD. During my early (and not so early) years of school, you did not give up on me, even when I was teetering on falling out of formal education. After years of a wondering mind, near the end of my army-days, I recall being in the back seat of the car, telling the both of you “maybe I’m interested to study this thing called psychology.” You must be glad I finally made up my mind... My mind is still changing.

My sisters and their families: Karen, we share more similarities than we both know. You and your family have blessed me with joy in looking forward to our return trips to Singapore. Wendy, you have been the “go-to” person, for all things necessary to survive in a then foreign land. Your love and care is so much appreciated by my wife and I. Your family, has helped us feel “family” in Australia. I’m also thankful for all the free home-cook meals that Alvin provided.

The Redemptorist community and St Vincent de Paul Society (North Perth Conference): You’ve created a second home for my wife and I during this period. Honestly, we have gained more than we have given. Thank you for the spirit of community. Priceless.

For the boys back home: Marvin and Mervyn, thank you for letting me go. The music carries on. Can’t ask for better close friends than the both of you.

Joel: My old friend. Thanks for keeping the music flowing. It keeps me sane.

My PhD friends: Magda, Irene, Nathan, Sarah, Daniel, & Maxine. It’s nice to know we are all in the same mess.

God: When I thank all these people, I thank you. How can I not be grateful for the big and small of things?

**Conference Presentation:**

Chow, D. L.; Miller, S. D.; Thornton, J.; Kane, R. T. (2013). *The study of supershrinks: Development and deliberate practices of highly effective psychotherapists*. Paper presented at the Achieving Clinical Excellence (ACE) Conference, May 17, 2013, Amsterdam, Holland.

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## **The Study of Supershrinks: Development and Deliberate Practices of Highly Effective Psychotherapists**

### **Abstract**

A growing body of evidence suggests that psychotherapists' outcomes vary to a significant extent (Blatt, Sanislow, Zuroff, & Pilkonis, 1996; Kim, Wampold, & Bolt, 2006; Luborsky, Mclellan, Diguier, Woody, & Seligman, 1997; Okiishi et al., 2006; Okiishi, Lambert, Nielsen, & Ogles, 2003). There is a paucity of empirical evidence of how highly effective psychotherapists develop their therapeutic skills, and to what extent the engagement of domain specific deliberate practice (e.g., Ericsson, 1996; Ericsson, 2006a; Ericsson, Krampe, & Tesch-Romer, 1993) mediates the acquisition and maintenance of superior performance. In order to investigate the contribution of the therapist, three-level multilevel modeling (Raudenbush & Bryk, 2002; Snijders, 1999) was employed in a study of practitioners' outcomes from the Human Givens Institute Practice Research Network (HGIPRN). In Study I (N = 69 therapists; N = 4580 clients), findings revealed that therapist effects explain about 5.1% of the variance in outcome, after adjusting for initial severity and treatment sites. The number of sessions and planned/unplanned endings at both the client and therapist levels explained about 65% of the variance between therapists. Therapist gender, caseload, and age range were not significant predictors in the final model. The variability on outcome that was due to therapists was greater with clients not on medication, compared with those who are on prescribed medication.

Building upon the rank ordering of therapists derived in Study I, 17 therapists from Study I (N = 1632 clients) participated in further investigations about the impact of their professional work practices, professional development, and self-assessments in Study II. Based on the generalised linear mixed modeling (GLMM), the findings indicated that

therapist demographic factors did not significantly predict client outcomes. The amount of time spent in solitary practice targeted at improving one's therapeutic skills was a significant predictor of client outcomes. The number of times therapists were surprised by clients' feedback about the session was also a significant predictor of client outcomes. Therapist who reported higher levels of healing involvement (HI) in their clinical practice were more likely to perform poorly, in terms of client outcomes. Compared with their peers, therapists' self-assessment of effectiveness was not correlated with actual outcomes, in spite of the use of outcome measures in their clinical practice. Finally, therapists' self-ratings about their mindsets were not predictive of client outcomes. The preliminary results from Study II must be interpreted with caution, due to the small sample size of therapists and large number of therapist variables involved in the analysis. Implications for the employment of deliberate practice and use of feedback to enhance clinical practice, continuing professional development, and training were discussed.

**Keywords:** Deliberate Practice, Expertise in Psychotherapy, Feedback, Professional Development, Psychotherapy Outcomes, Therapist Effects.

## CHAPTER 1

### Chapter 1: Introduction

*A man walking is never in balance, but always correcting for imbalance.*

*- Gregory Bateson*

#### Overview

Since the initial debate about the potency of psychotherapy (Eysenck, 1964; Strupp, 1963, 1964), numerous studies have demonstrated the efficacy and effectiveness of a variety of psychotherapeutic approaches (Lambert & Ogles, 2004). The contribution of common factors (e.g., relational, hope/expectancy, and client/extratherapeutic factors) promoting therapeutic change across various models of psychotherapy has been well established (Asay & Lambert, 2006; Duncan, 2010; Messer & Wampold, 2002; Rosenzweig, 1936; Sparks, Duncan, & Miller, 2008; Wampold, 2001, 2010; Wampold et al., 1997).

One of the critical findings in the literature, independent of the therapeutic model, is the therapist contribution towards client outcomes. Although previous studies neglected to account for the role and impact of the therapist, or tried to control for it (Garfield, 1997; Wampold & Serlin, 2000), several recent studies have examined the proportion of outcome that is attributable to the therapist (e.g., Okiishi, Lambert, Nielson, & Ogles., 2003; Wampold & Brown, 2005). In addition, re-analyses of previous clinical trial data have also been conducted to account for the variation of outcomes among clients, based on who the treatment provider was (e.g., Blatt, Sidney, Sanislow, Zuoff, & Piconis, 1996; Crits-Christoph et al., 1991; Crits-Christoph & Mintz, 1991; Kim, Wampold, & Bolt, 2006). This is referred to as the study of *therapist effects*. Collectively, these studies found that therapist effects accounted for more of the variation in client outcomes than the specific treatment modality (Kim et al., 2006; Wampold & Brown, 2005). Furthermore, studies which ignored



the nested effects of therapists were likely to overestimate the contribution of treatment model that was employed (Wampold & Serlin, 2000).

In a study examining therapist facilitative skills, Anderson, Ogles, Patterson, Lambert, and Vermeersch (2009) indicated that the therapist's ability to handle challenging interactions within sessions was found to be a significant predictor of good client outcomes. This finding is consistent with previous research conducted by Baldwin, Wampold, and Imel (2007). Using complex multi-level modeling to untangle the alliance-outcome correlation, Baldwin and colleagues found that it was therapist variability in the alliance, rather than client variability, that predicted outcome. Therapists who on average, formed stronger alliances, performed better than therapists who did not form as strong a therapeutic engagement with their clients.

Other studies attempting to investigate the characteristics of effective psychotherapists (Jennings, D'Rozario, Goh, Sovereign, Brogger, & Skovholt, 2008; Jennings, Hanson, Skovholt, & Grier, 2005; Levitt & Williams, 2010; Skovholt & Jennings, 2005) are limited due to their working definition of "master therapists," which were based on peer-nomination, rather than client-rated outcomes (Orlinsky, 1999). While these studies have yielded rich and detailed descriptions about the professional development and work practices of therapists from various disciplines and cultural backgrounds (Orlinsky, Ambuhl et al., 1999; Orlinsky & Ronnestad, 2005), there is a dearth of evidence linking therapist professional development to effectiveness. For example, even though the dimensions of "Cumulative Career Development", therapists' "Theoretical Breadth", and the therapists' sense of "Currently Experienced Growth" contributed to therapists' self-rating of "Healing Involvement" (HI), no study has yet examined the influence of these factors on client outcomes.

Even though past studies were able to identify qualities of highly effective therapists, such as being more psychologically minded (Blatt et al., 1996), having a flexible

interpersonal style and the ability to develop strong working alliances (Laska, Smith, Wislocki, Minami, & Wampold, 2013), no study has yet to examine *how* these superior performing therapists develop and maintain their professional competencies. Numerous studies have been conducted on the skill acquisition and maintenance of expertise in various fields, however, none has yet been formally conducted in the domain of psychotherapy in relation to client outcomes.

Deliberate practice (Ericsson, Krampe, Tesch-Romer, 1993) refers to activities related to focused and systematic effort aimed to improve one's performance, pursued over extended periods of time, with the guidance of a coach/mentor, and informed by immediate feedback about performance through repetition and successive refinement. The amount of deliberate practice that the person engages in has repeatedly been found to be a significant mediator in the acquisition and maintenance of expert performance in various fields, such as music, chess, sports, and medicine (e.g., Cote, Ericsson, & Law, 2005; Ericsson, 2007b; Ericsson et al., 1993; Gobet & Charness, 2006; Krampe & Ericsson, 1996; Mamede, Schmidt, Rikers, Penaforte, & Coelho-Filho, 2007; Norman, Eva, Brooks, & Hamstra, 2006; Schmidt & Rikers, 2007). However, the theory of deliberate practice has yet to be investigated in the realm of psychotherapy.

It has also been noted that self-assessments by therapists are inaccurate at predicting actual competency levels (Walfish, McAlister, O'Donnell, & Lambert, 2012). No study has investigated the relationship between therapists' self-assessment of effectiveness and the perspective of their own professional development in relation to actual client outcomes.

In addition, while the benefits of routinely using formal feedback mechanisms, such as The Partners for Change Outcome Management System (PCOMS; Miller, Duncan, Sorrell, & Brown, 2005) and the Outcome Questionnaire System (OQ System; Lambert et al., 1996) to inform the treatment process has been well-established (e.g., Botella, 2006; Brown & Jones,

2005; Brown & Minami, 2010; Evans, Mellor-Clark, Margison, & Barkham, 2000; Harmon, Hawkins, Lambert, Slade, & Whipple, 2005; Harmon et al., 2007; Hawkins, Lambert, Vermeersch, Slade, & Tuttle, 2004; Lambert & Shimokawa, 2011), it has been demonstrated that therapist factors moderate the effects of using formal feedback measures (de Jong, Van Sluis, Nugter, Heiser, & Spinhoven, 2012). In other words, the role of the therapist is vital, even when using feedback mechanisms.

In another related area, researchers have identified the importance of the types of self-attribution theory of ability (i.e., fixed and growth mindset) that might influence performance in various domains (Dweck, 2006). For instance, a person who endorses a fixed mindset is more likely to view their abilities as innate and stable across time. On the other hand, a person who endorses a growth mindset is more likely to believe that their abilities can be cultivated and developed throughout their lives. Currently, there is a lack of studies investigating how this would predict psychotherapists' performance.

Taken together, there are significant gaps in past psychotherapy research: How superior performing therapists develop compared to their counterparts; existing empirical evidence of the mediating effects of deliberate practice in the field of psychotherapy; the relationship of therapists' self-assessment of their own effectiveness in relation to actual client outcomes; how feedback is used and perceived by therapists, and how the mindset of therapists affects their client outcomes.

In summary, given the abovementioned, this thesis aims to conduct a preliminary investigation into how these therapist factors (i.e., deliberate practice, work involvements, professional development, self-assessments of effectiveness, use of feedback, mindsets) influence client outcomes.

## **Aims**

The overall aim of this thesis was to examine the influence of therapist professional development and work practices on client outcomes. Specifically, there were seven main objectives, with the first study addressing the first two aims, and the second study addressing the other five main aims. The first was to establish if there are between-therapist differences in client outcomes. Specification of the amount of variability between therapists was highlighted, in terms of their overall therapeutic outcome. Second, the impact of therapist characteristics that account for the variability of client outcomes was investigated. Third, a preliminary exploration of how psychotherapists' engagement in deliberate practice (Ericsson et al., 1993) predicts differences in client outcomes was conducted. Fourth, the influence of using formal feedback measures on predicting differences in client outcomes was examined. Fifth, constructs relating to psychotherapists' professional development, as outlined by Orlinsky and Ronnestad (2005), were examined in order to determine how much they predicted variability in client outcomes. Sixth, a self-assessment report by the therapists regarding their perceived effectiveness was conducted to see if they are accurate in their own assessments, in relation to other therapists in the study. Finally, this thesis examined if therapist attribution theory of ability, as defined by Dweck (2006), predicted client outcomes.

## **Organisation**

The thesis is organised into 12 chapters. The first chapter provides an introductory overview and outlines the main directions of the research. The next three chapters provide a literature review on the topics relevant to this thesis. Chapter 2 reviews the existing literature on the study of psychotherapy outcomes. Chapter 3 examines the findings regarding the contributions of the therapist on client outcomes. Chapter 4 elaborates on the structure, acquisition, and maintenance of expertise and expert performance in other professional fields,

in order to employ similar research methodologies in investigating the impact of therapists' professional development and work practices.

Chapter 5 highlights the significant contribution of this thesis to the study of therapist factors that affect client outcomes, along with the specific research questions and hypotheses to be tested.

Chapter 6 provides the methodology used for Study I of this thesis, which consists of 69 therapists who have seen 4580 clients within a practice research network (PRN) in the United Kingdom. Chapter 7 reports the results of Study I, which examines client and therapist contributions to client outcomes in a step-wise sequence, followed by a ranking of therapists based on their aggregated client outcomes. Chapter 8 discusses the key findings and limitations in Study I.

A sub-sample of 17 therapists from Study I responded to a follow-up investigation of therapist professional development and work practices in Study II. Chapter 9 provides the methodology of Study II. Chapter 10 delineates the results findings of Study II based on the sub-sample of therapists from Study I, while Chapter 11 discusses the various key findings and limitations in Study II.

Finally, Chapter 12 concludes with a general discussion of the key findings established in Study I and Study II. Implications for clinical practice and training, along with recommendations for future research are highlighted in this section.

## Definitions of Key Terms

**Client/Patient:** These two terms are used interchangeably to define the individuals who seek the services of counselling and psychotherapy.

**Counselling/Psychotherapy:** Although in some literature this may refer to different types of “talking cure” in helping people with psychological distress, I have chosen to regard them as synonymous. Nevertheless, the following definition of psychotherapy is derived from Wampold (2001), which is consistent with a variety of researchers’ and practitioners’ definition in the field:

Psychotherapy is a primarily interpersonal treatment that is based on psychological principles and involves a trained therapist and a client who has a mental disorder, problem, or complaint; it is intended by the therapist to be remedial for the client’s disorder, problem, or complaint; and it is adapted or individualized for the particular client and his or her disorder, problem, or complaint. (p. 3)

**Common Factors:** This refers to the universal curative elements or ingredients shared by most psychotherapeutic models, such as therapeutic alliance, client characteristics, treatment structures, and hope/expectancy.

**Deliberate Practice:** Focused and systematic effort to improve one’s performance, pursued over extended periods of time, with the guidance of a coach/mentor, and informed by the prompt feedback about their performance (Ericsson et al., 1993).

**Feedback Effects:** This refers to the variability in client outcomes that is attributable to the use of outcome and alliance measures in-session, as a form of feedback tool to guide treatment delivery.

**Mindset:** Categorized into Fixed and Growth mindsets, this generally refers to the view an individual adopts for him/herself. Fixed mindset refers to the belief that qualities and

certain abilities are innate. The individual is likely to believe that they can learn new things but can't change their ability. Growth mindset refers to the belief that basic qualities and certain abilities are cultivated and developed through efforts to improve.

**Multilevel Modeling (MLM):** Also known as hierarchical linear modeling, MLM is a regression based procedure that is particularly useful in analysing nested data structures (e.g., clients nested within therapists, therapists nested within organisations), while taking into account the variability associated with each level of nesting.

**Psychotherapist/Therapist/Counsellor/Practitioner/Clinician:** These terms are used interchangeably to denote the primary person delivering the psychotherapy service.

**Therapist Effects:** This refers to the variability in client outcomes that is attributable to the therapists.

## LITERATURE REVIEW

### Chapter 2: Psychotherapy Outcomes

In this chapter, an overview of the existing psychotherapy outcome research will be provided. Emphasis will be given to the review of the literature on common factors attributable to good outcomes in psychotherapy, which will provide the necessary contextual background for the review of factors that contribute to the differences in therapist effectiveness.

#### General Effects in Psychotherapy

According to Orlinsky, Ronnestad, and Willutzki (2004), 2354 process-outcome research findings have been accumulated over the last 40 years. Although there were early criticism of psychotherapy not having any causal effects on clients' well-being (Eysenck, 1952), based on the combined analyses on the efficacy of psychotherapy across a broad range of disorders, it is now well established that the average treated client is better off than approximately 80% of the untreated sample (Smith, Glass, & Miller, 1980; Wampold, 2001). Qualitative and quantitative studies also indicate that approximately 75% of those who enter treatment experience benefit (Lambert & Ogles, 2004). Another index used in the understanding of the effectiveness of psychotherapy is number needed to treat (NNT), which is defined as the number of patients needed to receive treatment in order to have one more successful outcome compared with those who did not receive treatment (Altman & Andersen, 1999; Cook & Sackett, 1995). This metric is often used in evidence-based medicine. An effect size of 0.8 in psychotherapy is equivalent to an NNT of approximately 3 (Kraemer & Kupfer, 2006). That is, three patients need to receive psychotherapy in order to experience a positive outcome relative to untreated patients (Wampold, 2010). Although it is not likely that every one will benefit from psychotherapy, it is as or more effective than established evidence-based medical practices, including interventions such as influenza vaccines (NNT:



12), aspirin prophylaxis for heart attacks (NNT: 176), and nicotine inhalers for smoking cessation (NNT: 10) (Wampold, 2007). Finally, psychotherapy is as effective as drug interventions for emotional concerns and is more sustaining and inoculative in its benefits (Barlow, Gorman, Shear, & Woods, 2000; Hollon, Stewart, & Strunk, 2006; Imel, Malterer, McKay, & Wampold, 2008). It also has significantly lower drop-out and relapse rates (De Maat, Dekkera, Schoevers, & De Jonghe, 2006), and fewer side-effects than drug treatment (Nutt & Sharpe, 2008).

In terms of the duration expected for clients to experience benefit, improvement occurs early in the therapy treatment process rather than later on. Generally, at least 50% of clients begin to experience benefits from treatment within 5 to 10 sessions (Asay & Lambert, 2006). In a seminal meta-analysis involving more than 2400 patients, Howard, Kopta, Krause, and Orlinsky (1986) examined the length of treatment needed for the experience of benefit by the client. They found that approximately 50% of the patients experience improvement by the 8<sup>th</sup> session, and approximately 75% experienced improvement by the 26<sup>th</sup> session. In another study, based on a survival analysis of data from an outpatient psychotherapy clinic, Anderson and Lambert (2001) estimated that approximately 11-16 sessions are required for 50% of the clients to experience reliable recovery (i.e., clinically significant change). Nonetheless, it is worth emphasising that there is a significant variability in the rates of change experienced by different clients, and it has been argued that it is clinically unjustifiable to restrict the length of treatment (Baldwin, Berkeljon, Atkins, Olsen, & Nielsen, 2009).

In summary, the combined evidence from clinical trials and naturalistic settings are clear that the benefits of psychotherapy is demonstrably large across a broad range of clinical problems, with improvement typically experienced early on in the process of treatment.

**Common factors model.** In the field of counselling and psychotherapy, “common factors” refer to curative elements or ingredients, such as the therapeutic alliance, shared by all (or most) models of psychotherapy (Sparks et al., 2008; Wampold, 2001, 2010). Over the last four decades, there has been consistent evidence for the contribution of common factors in promoting therapeutic change across various models of psychotherapy (Asay & Lambert, 2006; Duncan, 2010; Messer & Wampold, 2002; Rosenzweig, 1936; Sparks et al., 2008; Wampold, 2001, 2010; Wampold et al., 1997). In practice, common factors are not fixed, or neatly additive, but are fluid, interdependent, and dynamic, based on the relational context of therapy (Hubble, Duncan, Miller, & Wampold, 2010). In a review of past publications, Grencavage and Norcross (1990) addressed these commonalities and divided them into five categories: client characteristics, change processes, treatment structures, relationship elements, and therapist qualities. In an effort to sum up the impact of the common factors theory in psychotherapy, Frank and Frank (1993) state:

My [Jerome Frank] position is not that technique is irrelevant to outcome. Rather, I maintain that...the success of all techniques depends on the patient's sense of alliance with an actual or symbolic healer. This position implies that ideally therapists should select for each patient the therapy that accords, or can be brought to accord, with the patient's personal characteristics and view of the problem. Also implied is that therapists should seek to learn as many approaches as they find congenial and convincing. Creating a good therapeutic match may involve both educating the patient about the therapist's conceptual scheme and, if necessary, modifying the scheme to take into account the concepts the patient brings to therapy. (Preface section, p. XV)

As an overview, Table 1 provides a summary of the therapeutic factors accounting for the variance in outcomes in psychotherapy, which will be elaborated in the following sections.

Table 1

*Contributing Therapeutic Effects in Psychotherapy*

Source	Examples of Studies	Effect Size	Proportion of the Variance in Outcomes
General Effects in Psychotherapy	Lambert and Ogles (2004); Smith and Glass (1977)	0.8 – 1.0	13 – 20%
Specific Model Effects	Ahn and Wampold (2001); Elkin et al. (1989)	0 – 0.2	0 – 1%
Expectancy and Placebo Effects	Grissom (1996); Jacobson (1999); Lambert and Ogles (2004)	0.4	4%
Alliance Effects	Friedlander, Escudero, Heatherington, and Diamond(2011); Horvath, Del Re, Fluckiger, and Symonds(2011); Horvath and Symonds (1991); Martin, Garkse, and Davis (2000); Shirk, Karver, and Brown (2011)	0.45 – 0.57	4.8 – 7.5%
Feedback Effects (routine measurement of outcomes)	Hawkins et al. (2004); Lambert & Shimokawa (2011); Miller, Duncan, Brown, Sorrell, and Chalk(2006); Sapyta, Riemer, and Bickman (2005)	0.47 - 0.70	5 - 10.9%
Therapist Effects	Crits-Christoph et al. (1991); Wampold and Brown (2005)	0.41 – 0.6	4 – 9 %

**Specific Model & Placebo Effects**

**Do treatments vary in efficacy?** Although it has been argued that some treatment modalities are more efficacious than others (e.g., Ehlers et al., 2010; Siev, Huppert, & Chambless, 2009), other evidence suggests that when compared with a bona-fide treatment - that is, an approach that is intended to be therapeutic - the differences are non-significant. At best, treatment specificity accounts for about 1% of the variance in outcome. The differences between treatment models do not exceed what would be expected by chance. It is worth briefly pointing out a handful of robust meta-analyses that were conducted to address this issue. These studies pertained to comparing bona-fide treatment approaches for youth disorders (e.g., ADHD, conduct disorder, anxiety, or depression) (Miller, Wampold, & Varhely, 2008), for alcohol use disorders (Imel, Wampold, Miller, & Fleming, 2008), post-

traumatic stress disorders (Benish, Imel, & Wampold, 2008), and even the comparison between psychotherapy and pharmacotherapy interventions for depression (De Maat et al., 2006). Consistent with past clinical trials (Elkin et al., 1989), all of these meta-analyses found equivalent benefits between treatment modalities, after controlling for researcher allegiance (i.e., researcher bias and beliefs about a particular treatment model). In a more recent meta-analysis, researcher allegiance was found to explain about 12% of the variance in outcome (Munder, Fluckiger, Gerger, Wampold, & Barth, 2012). In other words, all treatments intended to be efficacious with the provision of a sound theoretical rationale, work equally well.

Above and beyond the strength of the working alliance, the utilisation of credible techniques is nonetheless crucial (Owen, Hilsenroth, & Rodolfa, 2012). Grounded by a wealth of empirical evidence (e.g., Addis, Cardemil, Duncan, & Miller, 2006; Ahn & Wampold, 2001; Messer & Wampold, 2002; Miller et al., 2008), Wampold (2010) succinctly state, "...with some qualifications, all cogent treatments, embraced by therapist and client and competently delivered to a client motivated to engage in the process, are equally effective" (p. 56).

It is also noteworthy to mention Seligman's (1995) specification of the five limitations of efficacy studies: 1. Psychotherapy is not of a fixed duration; 2. It is not rigid in adherence to a treatment modality, but rather adapts to the patient's needs; 3. Patients often actively shop for a therapist that fits their needs; 4. Unlike clinical trials, real world patients usually have more than one problem/diagnosis; and 5. Efficacy studies often focus on the improvement of specific symptoms or disorders, and that actual clinical practice is almost always concerned with the improvement of general functioning, as well as the reduction of symptoms and problems.

***Specific versus non-specific ingredients in psychotherapy.*** There were early proponents who advocated that the distinction between specific and non-specific factors in psychotherapy was an arbitrary and unnecessary distinction (Butler & Strupp, 1986). Instead of focusing on disembodied distillation of specific “active ingredients” of psychotherapy, Butler and Strupp (1986) stressed the importance of a paradigm shift and move towards a contextual model of understanding, focusing on identifying primary principles of human interactional conditions between therapist and client that ultimately promote therapeutic change.

This does not mean that therapeutic models and techniques are unnecessary and that “anything goes” (Anderson, Lunnen, & Ogles, 2010). Rather, when a *believable myth* (i.e., approach, rationale) is delivered in a healing context by a practitioner who not only believes in its efficacy, but is also persuasive, establishes an emotionally charged and good therapeutic alliance, the practitioner is likely to be effective, especially when he or she finds a fit with the particular client’s preferences and worldview (Frank & Frank, 1993). Stated differently, this ritualistic process of psychotherapy engages both the practitioner and client into a shared culture of healing (Fancher, 1995).

***Expectancy and placebo effects.*** Within the context of psychotherapy research, the increase of hope, and positive expectation provided by the clinician to the client is often referred to as the expectancy and placebo effect (Kirsch, 1990). Placebo effects have at times been labeled as “nonspecific factors” or “common factors” within the literature (Lambert & Ogles, 2004). Unlike in medical research, conducted often in either blind or double-blind studies, where an active pharmacological agent is compared with one without the active substance, the medical model is less applicable within the contextual model of psychological interventions, as the placebo effect is regarded as the portion of the treatment that is

accounted for by psychological means, rather than physical (Kirsch, 2005). Moreover, raising hope and response expectancy are part of a therapeutic treatment framework.

Nevertheless, based on one of the most comprehensive investigations of the placebo effect, Grissom (1996) delineated the following effect sizes based on 46 meta-analysis studies: Psychotherapy versus Control (0.75); Psychotherapy versus Placebo (0.58); and Placebo versus Control (0.44). In Grissom's (1996) definition, *Psychotherapy* refers to the inclusion of specific treatment and expectancy (placebo) effects. *Placebo* refers to some form of expectancy induction, and *Control* refers to little or no evidence of expectancy (i.e., a wait-list). In other words, this indicates that a bona fide treatment approach is more effective than the placebo effect. Likewise, a placebo effect which aims to increase hope and expectancy is more effective than no treatment at all.

In summary, therapeutic orientation, techniques, and increasing faith and hope in the treatment are necessary to provide a contextual framework for both the therapist and client. However, despite the investment and emphasis on empirically supported therapies (ESTs) (Chambless & Hollon, 1998; Elliott, 1998; Ingram, Hayes, & Scott, 2000; Silverman & Kurtines, 2004; Westen, Novotny, & Thompson-Brenner, 2005), all bona-fide approaches to psychotherapy are equally efficacious. Moving forward, this provides an indication that future studies should not only examine the specific and non-specific factors of ESTs, or so-called highly effective therapies, but also focus on factors that contribute to the development of superior performing therapists.

### **Alliance Effects**

Along with the contribution of therapist effects, the impact of the working alliance on therapeutic outcomes is one of the most established and robust empirical findings (Norcross

& Lambert, 2011; Norcross & Wampold, 2011). The working alliance in psychotherapy has been defined based on three factors: the agreement of therapeutic goals, methods used in treatment, and the emotional bond between the client and therapist (Bordin, 1979).

Two previous meta-analyses have found moderately strong alliance effects on psychotherapy outcomes, accounting for between 5% to 7% of the variance in outcome (Horvath & Symonds, 1991; Martin et al., 2000). Most recently, the American Psychological Association (APA), Division of Psychotherapy and Division of Clinical Psychology, commissioned a new task force to update the research studies on the therapeutic relationship between patient and therapist (Norcross & Lambert, 2011). This effort yielded several meta-analyses that found similar modest but robust effects of the working alliance in individual psychotherapy (Horvath et al., 2011), couples and family therapy (Friedlander et al., 2011), child and adolescent psychotherapy (Shirk et al., 2011), and cohesiveness in group therapy (Burlingame, McClendon, & Alonso, 2011), amongst others. Collectively, these studies indicated that between 4.8% to 7.5% of the variation in outcome was due to the working alliance, which is deemed as “demonstrably effective” elements in the practice of psychotherapy by the task force.

Expanding further, a recent study by Fluckiger, Grosse, Znoj, Caspar, and Wampold (2012), using a multilevel longitudinal meta-analysis, revealed that the alliance-outcome relationship was maintained, even after accounting for moderator effects, such as research design, specificity of the outcome measure, a disorder-specific manual being used, as well as researcher allegiance. This is consistent with previous findings on the alliance-outcome relationship (Horvath & Symonds, 1991; Martin et al., 2000).

More importantly, the contribution of the therapist alliance formation skills was demonstrated to be more crucial to the outcome than the clients’ ability of alliance formation

(Baldwin et al., 2007). In other words, therapists who on average, formed stronger alliances, performed better than therapists who did not form as strong a therapeutic engagement with their clients. This lends further support towards the impact of therapist effects. In the next chapter, the impact of the therapist will be expanded in greater detail.

### **Feedback Effects**

The benefits of using formal feedback mechanisms to measure the outcomes and progress of psychotherapy have been well-documented, and several previous studies (e.g., Harmon et al., 2005; Harmon et al., 2007; Hawkins et al., 2004; Lambert et al., 2001; Lambert et al., 2002; Slade et al., 2006; Whipple et al., 2003), meta-analyses, and mega-analyses (e.g., Knaup, Koesters, Schoefer, Becker, & Puschner, 2009; Lambert et al., 2003; Shimokawa, Lambert, & Smart, 2010; Lambert & Shimokawa, 2011) have been conducted. Information obtained from client feedback was reported to be most helpful when it assisted the practitioner to bridge any discrepant information between what they perceive of the client's progress, and what the client reports in his/her measure of progress. In addition, without the utilisation of feedback mechanisms that track client progress, psychotherapists, like other professionals, are not accurate in predicting their own effectiveness (Sapyta et al., 2005).

A seminal study conducted by Hannan and colleagues (2005) highlighted how therapists were rarely accurate at predicting those who were at-risk of treatment failures. Despite knowing the purpose of the study and the base rate of deterioration among clients (i.e., 8%), the practitioners predicted 3 out of 550 cases to have deteriorated, and they were accurate only with one of the three cases. In contrast, the actual outcome data indicated that out of the 550 clients, 40 deteriorated by the end of treatment. The researchers summed up, "We interpret these results as indicating that therapists tend to overpredict improvement and fail to recognize clients who worsen during therapy" (p. 161).



If therapists are not accurate in predicting client outcomes, particularly negative outcomes, it warrants further consideration of therapists using formal feedback mechanisms in their clinical practice. In a recent meta-analysis, Lambert and Shimokawa (2011) examined the therapeutic effects of therapists using brief measures to obtain real-time feedback about their clients' psychological functioning and their response to the treatment. Two similar but distinct systems for monitoring treatment response were described, namely the Partners for Change Outcome Management System (PCOMS) (Miller, Duncan, Sorrell, & Brown, 2005), and the Outcome Questionnaire (OQ) system (Lambert et al., 2004). PCOMS employs the use of two ultra-brief scales, the Outcome Rating Scale (ORS) (Miller, Duncan, Brown, Sparks, & Claud, 2003) and the Session Rating Scale (SRS) (Duncan et al., 2003), while the OQ system utilises the OQ-45, which is a 45-item self-reported measure designed to assess client functioning at each session of the treatment process. As the OQ system was primarily designed to enhance the outcomes of clients who were at-risk of treatment failure at termination, a signal-alarm system warns the therapists of a potential poor outcome for a given client, and an adjunct instrument called the Assessment for Signal Cases (ASC) is used to assist clinicians to problem-solve with the clients who are "at-risk" of treatment failure. The ASC is the basic tenet of the Clinical Support Tool (Harmon et al., 2005; Harmon et al., 2007; Slade, Lambert, Harmon, Smart, & Bailey, 2008), which prompts the clinician to areas that warrant further attention, such as the therapeutic alliance, issues relating to social support, readiness to change, diagnostic formulation, life events, and need for medication referral.

In a total of 13 studies analysed, Lambert and Shimokawa (2011) found the following: (a) the use of PCOMS accounted for about 5.3% of the variance in outcomes (Cohen's  $d = .47$ ); (b) the use of the OQ system among not-on-track clients accounted for about 6.25% of the variance in outcomes (Cohen's  $d = .52$ ); and (c) the use of the OQ system Clinical Support

Tools (CSTs) among the not-on-track clients accounted for about 10.9% of the variance in outcomes (Cohen's  $d = .69$ ). In other words, the use of formal feedback measures improves client outcomes.

Even though psychotherapy has been found to be generally effective, a frequent oversight relates to those who do not experience benefit from psychological interventions. Based on clinical trials, approximately 5-10% of clients deteriorate in treatment (Lambert & Ogles, 2004). The use of formal feedback systems has been found to reduce deterioration rates by about half its normal rate (e.g., Lambert & Shimokawa, 2011). Nevertheless, little evidence is currently available about how such feedback information is perceived and utilised by the clinicians that inherently impact outcomes. For instance, it is not clear if therapists actually learn from the feedback information and incorporate it into the subsequent sessions (Hays, Kornell, & Bjork, 2010).

The overview provided on feedback effects is of interest to this research. As it will be highlighted in the Methodology section, all therapists involved in the current study utilised formal feedback mechanisms, such as the Clinical Outcome in Routine Evaluation-Outcome Management (CORE-OM) (Barkham et al., 2001; Connell et al., 2007; Evans et al., 2000) in their routine clinical practice.

### **Therapist Effects**

Evidently, client factors (e.g., severity of dysfunction, motivation, and social support), extratherapeutic factors, and other unexplained and error variance accounts for approximately 87% of outcome (Bohart & Tallman, 2010; Orlinsky, Ronnestad, & Willutzki, 2004; Wampold, 2001). Within the 13% of total outcome variance due to treatment effects of psychotherapy, therapist effects account for one of the largest proportion of the variance in outcome. The variability in outcomes attributable to the therapist is often cited to be

approximately 4-9% (Crits-Christoph et al., 1991; Wampold & Brown, 2005), with one study indicating as high as 8-17% in an outpatient psychotherapy naturalistic design study (Lutz, Leon, Martinovich, Lyons, & Stiles, 2007). In other words, *who* the treatment provider is matters more than the type of treatment modality that is being employed within the psychotherapeutic framework. Thus, researchers have proposed that the focus should be shifted away from the study of models of psychotherapy, well-established common factors, and even therapists' qualities (e.g., age, experience, theoretical orientation), and move towards the investigation of therapists' skills and work practices contributing towards good outcomes (Miller, Hubble, Chow, & Seidel, 2013; Miller, Hubble, & Duncan, 2007; Miller, Hubble, Duncan, & Wampold, 2010; Strupp, 1995; Tracey, Wampold, Lichtenberg, & Goodyear, 2014).

As the previous sections have provided a review of the various contributing factors (e.g., alliance, specific model, expectancy, and feedback effects) to the outcome of psychotherapy, the next chapter will focus specifically on the key tenet of this study, which is the investigation of therapist factors, and how they significantly relate to client outcomes.

### **Chapter 3: The Contribution of the Therapist**

#### **The Study of Therapist Effects**

Previously, the study of therapist effects was commonly referred to as the “neglected” factor (Garfield, 1997). About 50 years ago, Strupp (1963) pointed out the importance of the contribution of the therapist. To date, very few clinical trials in psychotherapy have considered therapist effects in the primary analyses (Wampold & Bhati, 2004), with a few recent exceptions (e.g., Anker, Duncan, & Sparks, 2009; Owen, Leach, Wampold, & Rodolfa, 2011; Wampold & Brown, 2005). It is reasonable to expect that like other professionals (e.g., lawyers, teachers, physicians, artists), therapists do vary in their outcomes.

In an early study by Ricks (1974) examining the long-term outcomes of ‘highly disturbed’ adolescents, when the participants were later reviewed as adults, the results dramatically differed between the two therapists who provided the treatment. For example, 27% of the first therapist’s cases received the diagnosis of schizophrenia as adults, while 84% of the second therapist’s cases received that diagnosis. A significant amount of the adults who had seen the first therapist were more socially well-adjusted, compared to those who saw the second therapist, despite the fact that, at commencement of therapy, both therapists’ caseloads were equal in level of disturbance and other variables (gender, IQ level, socio-economic status, age, ethnicity, period seen, and frequency of psychotic disturbances found in the parents). Considering the consistently varied outcomes between the two therapists, the children in the child guidance clinic called the exceptional therapist who repeatedly achieved good outcomes “Supershrink”, while the therapist with poor outcomes was subsequently referred to as “Pseudoshrink”.

Even though both therapists were trained in the psychoanalytic tradition, Ricks (1974) found that they differed in five major ways in which psychotherapeutic methods were

employed. Compared to the other therapist, the “Supershrink” allotted more of his effort to help the more disturbed adolescents, instead of those easier to treat. He also used resources external to the therapy context, and was more competent in supporting the youths’ development of autonomy, while helping parents to recognise the importance of their adolescent’s individuation. Further, the “Supershrink” was firmer and more direct with the families and employed fewer intrapsychic interventions. This therapist tended to be more skilled than the “Pseudoshrink” in developing a deeper and more lasting therapeutic relationship. Finally, it was also apparent that the “Supershrink” was keen to elicit the patient’s feedback of each session.

Although Ricks’ (1974) study comprised only two therapists, it was the first study to explore results obtained by therapists with different competency levels. Based on long-term outcome criteria, it is alarming to note that the “Pseudoshrink” had an iatrogenic effect on some of the boys that he treated. Ricks was one of the first to highlight the salience of therapist effects and to emphasise the need to systematically monitor outcomes in psychotherapy. In addressing the harmful effects of ineffective therapists, as well as the merits of identifying highly effective therapists, Ricks proposed the need to systematically monitor outcomes in psychotherapy. He stated, “If a major clinic were to set up an ‘outcomes board’ to look over the long-term outcomes of therapy conducted by staff psychotherapists, it would be possible to determine, within a few years, whether particular therapists were unusually harmful or helpful” (p. 292). Nevertheless, the study is limited in its exploration of the relevant therapeutic skills that might have accounted for the significant variance between the two therapists.

A growing body of researchers has since reported similar findings, specifically that the variance in therapy outcomes is explained in part by therapist effects (Baldwin & Imel, 2013;

Blatt et al., 1996; Kim et al., 2006; Lambert & Ogles, 2004; Luborsky et al., 1997; Okiishi et al., 2006; Okiishi et al., 2003; Wampold & Brown, 2005). In an early study of therapist effects, Luborsky et al. (1986) re-analysed four major psychotherapy studies, using the therapist as a random factor. They found that therapists varied considerably in their average success rates, accounting for more of the variance in outcomes than the type of treatment employed. The researchers urged for further examination of highly effective psychotherapists. However, after more than 20 years, compared to voluminous research into the efficacy of a variety of treatment modalities, there are still limited investigations examining successful therapists in naturalistic settings.

Nevertheless, the current available evidence suggests that therapist effects account for approximately four to five times the variance of the outcome, compared to specific treatment effects, which accounts for less than 1% of the variance in outcomes (Beutler et al., 2004; Wampold, 2001; Wampold & Brown, 2005). Baldwin and Imel's (2013) recent meta-analysis pointed out that in naturalistic/effectiveness studies therapist effects accounted for 7% of the variance in outcome, while in efficacy studies this was 5%. Therapist effects might have been lower in the efficacy studies due to the higher amounts of training, supervision, and structure provided leading to increased homogeneity. Across the total of 45 studies, the researchers concluded that therapist effects account for about 5% of the outcome. Table 2 provides examples of the range of therapist effects found in past studies.

Although other researchers would argue for the impact of specific treatment modalities for specific disorder while discounting the therapist factor as an error variance (Chambless & Hollon, 1998; Siev et al., 2009; Waller, 2009), Wampold and Serlin (2000) stressed that ignoring therapist effects in the investigation would falsely inflate the estimates of treatment effects. Wampold (2001) succinctly points out: "Clearly, the person of the therapist is a critical factor in the success of therapy... The evidence is clear that the type of treatment is

irrelevant, and adherence to a protocol is misguided, but yet the therapist, within each of the treatments, makes a tremendous difference” (p. 202).

Table 2

*Range of Therapist Effects*

Study	Description of the study	Percentage of the outcomes attributable to Therapist Effects
Crits-Christoph et al. (1991)	Meta-analysis of 15 clinical trials	9%
Okiishi (2000); Okiishi et al., (2003)	Naturalistic study, in a university counselling centre	4.1%
Wampold and Brown (2005)	Naturalistic study, in a managed care setting	5%
Kim, Wampold, and Bolt (2006)	Reanalysis of the National Institute of Mental-Health (NIMH)-sponsored Treatment of Depression Collaborative Research Program (TDCRP) data	8%
McKay, Imel, and Wampold (2006)	A multi-level analysis of the data of the NIMH TDCRP, examining the impact of psychiatrist providing medications	7-9%
Lutz, Leon, Martinovich, Lyons, and Stiles (2007)	Naturalistic study design, in a managed care outpatient setting	8-17%
Saxon & Barkham (2012)	Practice-based data set in U.K.’S National Health Service (NHS) primary care counseling and psychological therapy services	6.6%
Laska et al. (2013)	Naturalistic study design, delivering an evidenced-based treatment in a Veterans Affairs (VA) posttraumatic stress disorder (PTSD) specialty clinic	12 %

**Characteristics of Effective Psychotherapists**

In one of the most influential early studies of therapist effects in psychotherapy, Luborsky, McClellan, Woody, O'Brien, and Auerbach (1985) found significant therapist

differences in effectiveness among nine therapists, despite controlling for training, monitoring, supervision, and the use of specified treatment manuals. Three therapist qualities were found to distinguish the highly effective group of therapists: (1) therapist's adjustment, skill, and interest in helping patients; (2) the "purity" of adherence to the specified treatment they offered; and (3) the quality of the good working alliance at the early stage of treatment. However, a recent meta-analysis found that therapist adherence to a particular treatment model and therapist competence of the specific treatment (i.e., the skill with which the specific techniques were employed) was not related to treatment outcomes (Baldwin & Imel, 2013; Webb, DeRubeis, & Barber, 2010). Therapist adherence to a treatment model was also found to be irrelevant to outcomes when a strong working alliance was forged (Barber, et al., 2006).

In a reanalysis of the National Institute of Mental Health (NIMH) Treatment of Depression Collaborative Research Project (TDCRP) data, based on therapists' self-reports, Blatt and colleagues (1996) found that the more effective therapists were more psychologically minded, as opposed to having a biological orientation (i.e., medication, electroconvulsive therapy), and they also expected more outpatient therapy treatment sessions than did moderate and less effective therapists. These differences were independent of the four types of treatment provided (cognitive-behavioural therapy, interpersonal therapy, imipramine plus clinical management, and pill placebo plus clinical management), or the research site. The difference in effectiveness was also not related to the therapists' level of clinical experience. Although the overall results obtained by Blatt and colleagues indicated that qualities of the therapist are important dimensions that appear to influence therapeutic outcome, the results do not suggest any causal inferences of the above therapists' characteristics impacting outcome. Further, as binary variable comparisons between psychological mindedness and biological orientations were used in Blatt and colleagues'



study, the results do not suggest that the *more* psychologically minded therapist would lead to better outcomes.

Therapist characteristics such as age, experience, and professional degree also did not explain the variability among therapists. Beutler and colleagues' (2004) extensive review points out that there were no persuasive indicators that therapist gender, therapist involvement in personal therapy, or therapist personality characteristics and traits predicted better client outcomes in therapy. Few studies found a modest interactional effect of client and therapist variables (e.g., age and gender) on treatment outcome (Beutler et al., 2004). The only therapist variable of any influence was the therapist's emotional well-being, albeit of a small effect size. It is plausible that unless there were specific requests by the clients, in terms of their therapist's gender, age group, or ethnicity, these factors generally are not significant to the outcomes of psychotherapy.

In another study, Wampold and Brown (2005) examined 6,146 adults with various diagnoses seen in real-world clinical practice by approximately 581 therapists. The researchers found factors widely believed to influence treatment outcome accounted for little of the variability in outcomes among therapists. Specifically, Wampold and Brown (2005) found that patient characteristics such as age, gender, and diagnosis, did not contribute significantly to the variability in outcomes. Therapist variables, such as age, gender, and years of experience were also not significant in affecting client outcome. As mentioned by the researchers, they were limited by access to other therapist or process (i.e., working alliance) information, and were thus restricted in identifying other variables that better therapists might possess that lead to consistently better client outcomes.

It is important to state that the study of therapist effects is not without controversy. When Elkin, Falconnier, Matinovich, and Mahoney (2006b) recalculated the analysis of the NIMH TDCRP data, they did not find any significant evidence of therapist effects, compared to Kim

et al. (2006), who had estimated 8% of the variance to be attributable to therapist effects. In response to the debate, comments that were provided indicated that the distinct findings were based on (a) the complex methodological difference of Kim and colleagues (2006) employing a two-level model (therapists nested within treatments and considered as a random factor), with Elkin and colleagues using a three-level model (with time at the first level) of analyses; and (b) the different outcome measures of comparison that were used. Kim and colleagues (2006) used the termination or last score available, while Elkin and colleagues chose a growth curve model (Soldz, 2006). With reference to the same data, Crits-Christoph and Gallop (2006) responded that therapist effects are still likely to exist, albeit smaller in magnitude, comparable with Okiishi and colleagues' (2003) findings (4.1%), which were based on large-scale naturalistic studies. Regardless, there were exceptional therapists who outperformed others in the NIMH TDCRP research, which is consistent with other findings (e.g., Blatt et al., 1996; Crits-Christoph & Mintz, 1991; Luborsky et al., 1986; Okiishi et al., 2003).

In two more recent studies, Cella, Stahl, Reme, and Chalder (2011) and Dinger, Strack, Lechsenring, Wilmers, and Schauenburg (2008) found a lower estimated variance explained by therapists (i.e., 0-2% and 3% respectively). Upon close examination of Cella and colleagues' study (2011), which investigated therapist effects on the cognitive behaviour therapy (CBT) treatment of patients with chronic fatigue syndrome (CFS), significant effort and resources were put into ensuring the homogeneity of the therapists, in terms of theoretical orientation, amount and type of training, shared environment and clinical supervision (to ensure adherence to the manualised treatment protocol). This is not likely to reflect the heterogeneity among therapists in naturalistic practice settings, where therapists are more likely to adapt to the client's needs based on their responsiveness (Stiles, 2013; Stiles, Honos-Webb, & Surko, 1998), and employ an eclectic array of skills and techniques to match

clients' concerns and preferences. Furthermore, the small number of therapists ( $N = 12$ ) limits the estimation of therapist variability, with some of them seeing as few as 8 clients, and the 95% confidence interval of therapist effects ranges from 0 to about 10%. The researchers also pointed out the low estimated therapist variability might be due to the outcome measure used that was symptom-specific to CFS, which does not necessarily reflect general psychological functioning and life satisfaction.

The smaller estimated therapist variability in Dinger and colleagues' study (2008) might be due to the influence of other compensatory factors within the specific context of the investigation, which was conducted in an inpatient setting. Other significant factors are likely to contribute to the patient's outcome within an inpatient setting (e.g., the impact of the same therapeutic team within the inpatient clinic, and the engagement in other therapeutic activities, such as art and body oriented therapies, group therapy, and group treatments with qualified nurses). Even though therapist effects on outcome appeared small in this inpatient study (3%), a greater variability was found between therapists on the patient-rated working alliance scores (33%). As the researchers indicated, this is likely due to patients' direct ratings of their experience with their individual psychotherapists, which has a more direct relationship with the therapist's qualities and influence. The measure of outcome in an inpatient setting is more likely to be influenced by several salient factors (e.g., ward conditions, level of care by nursing staff), other than the individual psychotherapist.

### **The Study of "Master" Therapists**

Other studies attempted to delineate the characteristics of effective psychotherapists. The methodology chosen by the investigators for sampling participants deemed as master therapists was based solely on nomination by peers, as determined by the chosen therapist's reputation (Jennings et al., 2008; Jennings et al., 2005; Levitt & Williams, 2010; Skovholt & Jennings, 2005). Although yielding rich descriptions of seasoned practitioners, in terms of

cognitive, emotional, and relational (CER) characteristics (Jennings & Skoholt, 1999), several limitations regarding the definition of “master therapists” are inherent. Primarily, there has been a lack of a clear initial definition of the term “master therapist” (Orlinsky, 1999). Orlinsky (1999) argues the following:

Sole reliance on reputation among one's colleagues as the criterion for a master therapist strongly dilutes the theoretical interest of the concept. Therapeutic mastery must mean something more than that, something, in fact, that local colleagues may not be well positioned to know. (p. 13)

Orlinsky (1999) further points out that there was no comparison group to explore the cognitive, emotional, and relational characteristics of non-master therapists and master therapists. Some of the categories that Jennings and Skovholt (1999) attributed to master therapists, such as “voracious learners, draw heavily on accumulated experience, value cognitive complexity and ambiguity” (p. 6), are just as likely to characterise non-therapists. Third, and more importantly, there were no measures of the level of effectiveness of these peer-nominated master therapists. Thus, a master therapist, as defined by the researchers, was not necessarily synonymous with being a therapist with a superior level of mastery of therapeutic skills and knowledge that translates to highly effective client outcomes.

## **Therapist Skills**

**Therapist ability in alliance formation.** The research on the positive impact of one of the common factors, the working alliance, on outcome in psychotherapy is well established (e.g., Horvath et al., 2011; Horvath & Luborsky, 1993; Horvath & Symonds, 1991). Some studies even suggest the potential of a causal role of alliance in outcomes (Anker, Owen, Duncan, & Sparks, 2010; Barber, Connolly, Crits-Christoph, Gladis, & Siqueland, 2000). Even more relevant is the finding that therapists who form better alliances, that is, an

agreement on goals, tasks and level of bond between the therapist and client (Bordin, 1979), achieve better outcomes than therapists who are less skilled in forging a strong alliance (Baldwin et al., 2007). Anderson and colleagues (2009) added that therapists' ability to handle challenging interpersonal encounters, measured via a performance task indicator called the facilitative interpersonal skills (FIS; Anderson, Patterson, & Weis, 2007), predicted therapist success in terms of outcomes. Anderson et al. (2009) defined FIS as:

The general and personal qualities of persons who are capable of 1) perceiving, understanding, and sending a wide range of interpersonal messages and 2) persuading others who have personal problems to apply proposed solutions to their problems and abandon maladaptive patterns. (p. 3)

This suggests the likelihood that in the process of their professional development, successful therapists acquire the necessary interpersonal skills to handle a variety of difficult situations within the context of therapy. In addition, if highly effective therapists possess such heightened relational skills within the context of psychotherapy, it is likely that this group of therapists would yield a progressive increase of positive working alliance with their clients within treatment, as was found in couples therapy (Anker et al., 2010). Anker and colleagues found that therapists whose alliance ratings started over the mean and improved across sessions were more likely to achieve reliable or clinical significant change. Nonetheless, some authors have suggested that highly effective therapists are more likely to obtain an initial lower alliance rating with gradual improvement across sessions, because they are more likely to be receptive and able to elicit negative feedback at an early stage of the therapy process (Miller et al., 2007).

Taken together, the abovementioned findings echoes Strupp's (1995) emphasis on the significant contributory role of the therapist's skill impacting on client outcomes in the practice of psychotherapy.

### **Summary of Therapist Effects**

In summary, cumulative evidence suggests that therapist effects account for a relatively large proportion of the variance in therapeutic outcomes (4-17%), as compared to treatment and model effects (0-1%). However, therapist characteristics such as experience, age, and professional training do not account for a significant proportion of variability in outcomes. Rather, the therapist's ability in employing specific relational skills at the appropriate time and context with their clients has a significant impact on therapy outcomes (Anderson et al., 2009; Cooper, 2008). Ignoring therapist effects in the investigation of psychotherapy outcomes falsely inflate the estimates of treatment effects (Wampold & Serlin, 2000).

### **The Development of Psychotherapists**

Despite Blatt and colleagues' (1996) initial study of the characteristics of effective therapists, there has been no study, to date, that addresses how highly effective therapists' professional development differs from less effective therapists. In 1989, the Society for Psychotherapy Research (SPR) Collaborative Research Network (CRN) was initiated to study the development of therapists from various backgrounds, theoretical orientations, and nationalities (Orlinsky, Ambuhl et al., 1999). Using 3800 therapists in their database, Orlinsky and colleagues were able to substantiate construct validity, internal consistency, adequate differentiation, and broad applications of the various subscales found in the package of instruments, collectively termed as the Development of Psychotherapist Common Core Questionnaire (DPCCQ; see section on Measures for more details). The DPCCQ has been translated to approximately 20 languages and used by various countries.

A considerable amount of research began to use the DPCCQ to examine the development of psychotherapists. The studies covered a broad range of issues, such as the psychotherapists' self-assessment of their development (Orlinsky, Ronnestad et al., 1999) and the impact of training activities (Orlinsky, Botermans, & Ronnestad, 2001), spiritual practices

of psychotherapists (Smith & Orlinsky, 2004), therapists' thoughts and feelings about their patients between sessions (Schroder, Wiseman, & Orlinsky, 2009), and the influence of therapist characteristics on early patient-rated alliance formation (Nissen-Lie, Monsen, & Ronnestad, 2010).

Leading further research efforts in this area, Orlinsky and Ronnestad (2005) conducted a comprehensive analysis of the way psychotherapists develop and function in their profession using the DPCCQ. This was based on nearly 5000 psychotherapists of all career levels, professions, and theoretical orientations in more than a dozen countries worldwide. Of interest, the authors found highly plausible convergence between the depiction of effective therapeutic process based on 50 years of process-outcome research (Lambert & Ogles, 2004; Orlinsky et al., 2004), and the broad dimension of therapeutic work experience, identified as Healing Involvement (HI) in the DPCCQ. Orlinsky and Ronnestad (2005) indicated that HI represented the therapist as the following:

Personally invested, (involved, committed) and Efficacious (effective, organized) in relational agency, as Affirming (accepting, friendly, warm) and Accommodating (permissive, receptive, nurturant) in relational manner, as currently Highly Skillful, as experiencing Flow states (stimulated, inspired) during therapy sessions, and as using Constructive Coping strategies when dealing with difficulties. (p. 63)

Reflecting another aspect of therapeutic work experience, Orlinsky and Ronnestad (2005) identified this factor as Stressful Involvement (SI), defined as:

The therapist's experiences of Frequent Difficulties in practice, accompanied by feelings of Anxiety and Boredom during sessions and a tendency to cope with difficulties by Avoiding Therapeutic Engagement (avoiding the problem, hoping it will disappear, considering transferring or terminating the patient). (p. 65)

The experiences of healing involvement and stressful involvement by a therapist are not regarded as mutually exclusive, as it is conceivable for a therapist to experience one of the dimensions with some patients and not others, and to experience the other dimension at a different point of treating a particular patient (Orlinsky & Ronnestad, 2005). Nevertheless, the researchers further delineated four practice patterns experienced by therapists in their study: (a) an Effective Practice (much experience of HI and little SI); (b) a Challenging Practice (much experience of HI and more than a little of SI); (c) a Distressing Practice (not much experience of HI and more than a little SI); and (d) a Disengaged Practice (not much experience of HI and little SI). The researchers found that half of the Western therapists experienced an Effective Practice pattern, 23% of the participants experienced a Challenging Practice pattern, 10% experienced a Distressing Practice pattern and finally, 17% were experiencing a Disengaged Practice pattern.

Orlinsky and Ronnestad (2005) were able to further identify three main independent sources with the dimension of Healing Involvement (HI): The level of therapists' Cumulative Career Development, therapists' Theoretical Breadth, and the therapists' sense of Currently Experienced Growth. Cumulative Career Development refers to therapist improvement in clinical skills, increments in therapeutic mastery, and overcoming past limitations. Theoretical Breadth reflects the therapist's integration of several theoretical perspectives in his or her practice, which allows the practitioner flexibility and the utilisation of multiple conceptual lenses to formulate their work with various clients. Currently Experiencing Growth is referred to by Orlinsky and Ronnestad as the most significant influence on HI. It reflects the "therapist's positive work morale and the process of learning from clinical experience through continuous professional reflection" (Orlinsky & Ronnestad, 2005, p. 171), which propels further new learning. This is also indicative of a therapist's motivation for continuous improvement.



In order to have a contextual understanding of the professional development of psychotherapists, further elaboration will be provided describing the influences of profession and theoretical orientation in clinical practice, career and experience levels, formal training, and clinical supervision.

**Profession and theoretical orientation in clinical practice.** It is clear that psychotherapy is considered to be a shared sub-specialty amongst psychiatrists, psychologists, counsellors, and social workers (Orlinsky, 2009). With so many professions practicing psychotherapy globally, it is not without diversity in its theoretical orientations and intervention strategies among practitioners (e.g., psychodynamic, humanistic, cognitive-behavioural).

There is evidence to suggest that psychotherapists naturally enlarge their initial theoretical orientation in the process of their epistemological development (Vasco & Dryden, 1994). This is, in part, due to the influence of their cumulative clinical experience, and also their experience of theoretical dissonance as they seek to infuse other theoretical paradigms in an eclectic fashion. Eclecticism in theoretical orientation is found in a vast majority of therapists (Lambert & Ogles, 2004). For example, integration of various therapy models is common among North American psychotherapists (Cook, Biyanova, Elhai, Schnurr, & Coyne, 2010). Nevertheless, sampling a pool of nearly 5000 psychotherapists from various nationalities, Orlinsky and Ronnestad (2005) found that the most common salient theoretical orientation was analytic/psychodynamic (58%), followed by humanistic (31%), and cognitive (24%) orientations. In general, 45.5% reported having integrated two or more theoretical orientations. Similarly, in a survey profiling counsellors and psychotherapists in Australia, the most common primary theoretical orientation was psychodynamic (30%), although this is closely followed by eclectic/integrative (26%) (Schofield, 2008). On the other hand, in another study using the DPCCQ (Orlinsky, Ambuhl et al., 1999) with a population of Spanish

psychotherapists (Coscolla et al., 2006), it was found that they were intensely biased towards their chosen theoretical orientation, and eschewed eclecticism and integrative orientations. Spanish psychotherapists' highest rated theoretical orientation was analytic/psychodynamic (57.5%), followed by systemic (22.9%) and cognitive (21.2%) models.

In another South Korean study (Bae, Joo, & Orlinsky, 2003), employing the same measures, the DPCCQ, an unexpected finding was that the most salient orientation was analytic/psychodynamic (38.6%), followed by humanistic (36.1%). Psychotherapists with more than one salient orientation accounted for 33.8%. Even though South Korea traditionally values more of a collectivistic culture compared to an individualistic mindset, the psychotherapists tend to lean towards a more individualistic-oriented framework. Less than 7% were systemically oriented in their approach. Bae and colleagues (2003) partially attributed this conflict of importing Western therapeutic approaches in a non-Western cultural context to two points. First, South Korea is still in the early stages of development of the profession in psychotherapy, and many of the therapeutic approaches are extracted from Western cultures. Second, it was apparent that the sampled Korean therapists in this study were relatively young and lacked clinical experience. There may be evolving differences of cultural orientations and lifestyles between generations, in a country that is developing rapidly.

In sum, based on the overarching evidence from the studies of the development of psychotherapists, and despite the hegemony of evidence-based research on cognitive-behavioural therapies, a large proportion of practitioners are still more analytic-psychodynamically oriented, across the various professions and nationalities studied. This is not so surprising, if one is to consider the view that psychotherapists are more likely to be influenced in their clinical practice by significant mentors, books, formal and informal training, integration of knowledge of existing theories, and the effectiveness with their

clients, as compared to the available empirical evidence (Cook, Schnurr, Biyanova, & Coyne, 2009).

More importantly, despite the above studies yielding rich descriptions of psychotherapists' professional background and theoretical orientations across nations, there is currently no convincing evidence of superior outcomes between professions (e.g., Wampold & Brown, 2005) and practitioners with different theoretical orientations (e.g., Elkin et al., 1989; Okiishi et al., 2006).

**Career and experience levels.** In relation to career development, Orlinsky and colleagues (1999) examined about 3900 psychotherapists' evaluation of their own development at various career levels. Again, the authors used the Development of Psychotherapist Common Core Questionnaire (DPCCQ). They found that "perceived therapeutic mastery" was significantly related to years of practice. In addition, the therapists' sense of "currently experiencing growth" did not decline as the years of practice increased, but rather remained at a generally high level, even for the senior therapists. There was also a moderate significant positive correlation ( $r = .27$ ) between "currently experiencing growth" and "perceived therapeutic mastery." Nevertheless, Orlinsky and colleagues (1999) pointed out that therapist development was not linked to clinical effectiveness. In suggesting potential further studies, they cautioned the likelihood that the magnitude of association (i.e., effect size) between these two factors is likely to be modest at best, due to multiple mediating and moderating variables involved in affecting the final therapy outcomes. They suggested the use of a large sample size similar to their study in order to make a fair comparison.

Although the level of therapist experience has not shown any significant differences in outcomes in some studies (Blatt et al., 1996; Shapiro & Shapiro, 1982; Smith & Glass, 1977; Wampold & Brown, 2005), in other studies there seems to be evidence of its significance (Leon, Martinovich, Lutz, & Lyons, 2005). Beutler (1997) attributed this discrepancy to poor

conceptualisation and operationalisation of the term “experience”. He stressed that using years since graduation as an operational definition may not indicate the actual measure of years of psychotherapy experience. Nevertheless, with more than 30 years of research on clinical experience and training, there is currently no clear consensus that experience level affects outcomes in therapy (Sapyta et al., 2005).

**Training.** Studies of the impact of psychotherapy training relating to client outcomes suggest a lack of significant differences in clinical effectiveness based on the relationship of clinical experience and therapist’s degree, with the exception that trained therapists might have slightly better retention rates, greater sustained effects on clients, and a larger impact on a client’s overall well-being (Atkins & Christensen, 2001; Christensen & Jacobson, 1994; Stein & Lambert, 1995). Christensen and Jacobson (1994) found little correlation between therapists' experience or amount of training with their effectiveness of treatment provided. Based on the available evidence, Atkins and Christensen tentatively postulated the lack of differences in therapeutic outcomes between paraprofessionals and professional therapists. This led them to suggest the possibility that individuals without formal, professional training can develop and improve their effectiveness by acquiring specific skills needed in their therapeutic setting through targeted practice and clinical supervision.

There are many inherent difficulties in studying the influence of training effects, such as the complexity of effectively training psychotherapists (O'Donovan & Bain, 2001), as well as the array of methodological problems (e.g., inadequate controls, unclear definitions of “professionals and paraprofessionals,” “trained and untrained”) (Lambert & Ogles, 2004). Beutler (1997) noted that it is insufficient simply to note the presence of training, without the knowledge of its content. Notwithstanding, in a large cohort study of more than 4000 psychotherapists (Orlinsky et al., 2001), the researchers found that therapists of various professional backgrounds, years of experience, and theoretical orientations from various

countries consistently rated a higher level of influence from experiential forms of learning, such as direct client contact, supervision, and the therapist's own personal therapy, as compared to didactic forms of learning (e.g., taking courses, reading journals).

In another effort to study the influence of training effects, O'Donovan, Bain, and Dyck (2005) attempted to delineate the impact of formal training in clinical psychology, so as to improve the clinical competencies of the practitioners. Even though the study found that postgraduate trainees performed better than those without postgraduate training, albeit only to a modest degree, there were a few critical flaws in the design of the methodology. First, the two clients that were used for the comparison of 61 practitioners were actually research confederates in role-play experiments. Not using actual clients in the study has been highlighted to be a severe limitation in psychotherapy research designs (Mahrer, 2005). Justifiably, this also does not represent the typical therapist's work in a naturalistic setting in mental health or agency settings, as they would more than likely to see a variety of types of clients. Second, this experiment contained only a 30-minute intake interview, which does not represent a typical bona fide psychotherapy endeavor (Wampold et al., 1997). Third, even though competence checklists and an alliance inventory were used, the measures that were used did not include actual therapy outcome scales to measure the pre-post treatment impact (i.e., effect size) of the sessions. At best, the researchers were able to find an association with enhanced performance on clinical knowledge and of clinical practice abilities (e.g., psychological assessments, diagnostic skills, etc.). At worst, this study did not manage to draw any correlation between training effects and clinical outcomes (Barkham et al., 2001; Lambert, 2010) within a real-world practice setting.

Although another previous study indicated that trained therapists experienced a modest effect size, and had fewer dropout rates (Stein & Lambert, 1995), a similar conclusion to Atkins and Christensen's (2001) was also reached in Lambert and Ogles' (2004) study of the

available meta-analyses by the mid-1990s. The researchers stated, “Paraprofessionals, who in many cases are selected, trained, and supervised by professional therapists, are often able to be as helpful as practicing clinicians” (p. 181). Nevertheless, criticisms were again made regarding the use of academic degrees to substantiate the amount of training a psychotherapist undertook and not the amount of time vested in studying specific treatment concepts and practices (Beutler et al., 2004). Similarly, a more recent investigation found that training variables, such as years in training and theoretical orientation, failed to predict not only the types of interventions employed, but also the actual session outcome ratings (Boswell, Castonguay, & Wasserman, 2010).

In summary, no consistent pattern has emerged regarding the benefits of treatment specific training (Beutler et al., 2004; Sapyta et al., 2005). Nonetheless, Atkins and Christensen (2001) indicated the possibility that individuals without formal professional training can develop and improve their effectiveness by acquiring the specific skills needed in their therapeutic setting through targeted training, which is deliberately designed to improve performance (Ericsson et al., 1993). This will be explored in greater detail in the next chapter.

**Supervision.** Regarded as a “signature pedagogy” in psychotherapy (Watkins, 2010), Watkins (2011) reported that based on the past 30 years of research, 18 empirical studies have been published that specifically examined the impact of supervision and client outcomes. However, upon further scrutiny, Watkins noted that seven of the studies were not actually related to the impact of clinical supervision on client outcome. Nonetheless, trainees and experienced psychotherapists rate clinical supervision as a highly integral part of professional development (Orlinsky et al., 2001), and supervising the work of other psychotherapists is seen as part of the norm as the practitioner experience level increases (Ronnestad, Orlinsky, Parks, & Davis, 1997).

Based on a recent naturalistic study by Laska, Smith, Wislocki, Minami, and Wampold (2013), despite a uniformity of treatment modality (cognitive processing therapy) for war veterans treated with post-traumatic stress disorder (PTSD), along with rigorous training and ongoing weekly group supervision by a leading figure in this treatment approach, therapists effectiveness still significantly varied, accounting for about 12% of client outcomes. To date, Laska and colleagues' research is the first study to disconfirm the notion that adherence to a unified evidence-based treatment approach, coupled with robust training and ongoing supervision reduces therapist effects (Aarons, Hurlburt, & Horowitz, 2011). Even though there was no formal assessment of therapist adherence in Laska and colleagues' study, this is consistent with other evidence that therapist adherence to a particular method of intervention has little impact on client outcome (Baldwin & Imel, 2013; Webb, DeRubeis, & Barber, 2010). Intriguingly, the supervisor who provided the weekly group supervision for all the 25 therapists (in addition to weekly individual supervision for four out of the five trainees involved in the study), was able to predict the supervisees' level of effectiveness, in the absence of outcome data information. Using a single case-study design, the researchers were able to qualitatively identify qualities and characteristics of effective therapists by the supervisor (Laska et al., 2013): addressing patient avoidance, the use of language in describing cases in supervision, flexibility in interpersonal style, and ability in developing a strong therapeutic alliance. Due to the non-generalisability of a single supervisor providing her perspectives from a conceptual framework of cognitive processing therapy, further studies would need to either incorporate more supervisor's perspectives, or therapists reports of their activities related to their professional development, as opposed to trait qualities of the therapists, which may be less malleable to change. Nonetheless, the findings were still interesting, given the fact that the supervisor did not view the actual sessions.

To date, there has been limited empirical evidence that supports the fact that clinical supervision is more efficacious than other types of training, despite the fact that many trainees would rate supervision as having the highest impact (Hess, Knox, & Hill, 2006; Watkins, 2011).

***Efficacy of supervision in therapeutic outcomes.*** It is assumed that if supervision were efficacious in helping supervisees with skills acquisition related to alliance building, case formulation, and carrying out therapeutic interventions, it would thereby increase the probability of successful outcomes (Holloway & Neufeldt, 1995). In the study of the impact of clinical supervision on working alliance and symptom reduction in the brief treatment of major depression, Bambling, King, Raue, Schweitzer, and Lambert (2006) found that the supervised group of psychotherapists had significant effects on reducing depressive symptoms, higher client rated alliance scores at the end of the first session, higher retention rates, and better client treatment satisfaction. Interestingly, Bambling and colleagues (2006) also found equivalent efficacy between the process-focused (i.e., understanding of interpersonal dynamics within therapy) and skill-focused (i.e., explicit guidance to enhance client experience of bond, goals, and tasks) supervision conditions. However, allegiance effects may have influenced this research finding, as the principal researcher undertook extension supervision in both conditions. Nevertheless, this study supports the vital impact of clinical supervision on early working alliance formation, at least in the treatment of depression.

**Limitations of previous studies in the development of psychotherapists.** One of the striking limitations of Orlinsky and colleagues' (Orlinsky, Ambuhl et al., 1999; Orlinsky & Ronnestad, 2005) elaborate and widespread studies of the development of psychotherapists (e.g., the influence of profession and theoretical orientation, experience levels, training,



clinical supervision), is the lack of any investigation between the various constructs in the DPCCQ and the psychotherapists' actual effectiveness levels, in terms of client outcomes. Specifically, even though several factors were identified to contribute to the experiences of Healing Involvement (SI) and Stressful Involvement (SI), there were no indications on the relationship between these factors, or with other dimensions (e.g., Practice Patterns, Currently Experiencing Development) with psychotherapists' performance. One wonders if, for example, a therapist scoring highly on Healing Involvement, a perceived Highly Effective Practice pattern, and/or Currently Experiencing Growth, would also be consistently rated as highly effective by their clients. Thus, the question of how the above factors influence clinician's overall outcomes, is left unanswered.

In another related area of investigation conducted by other researchers (Eshel & Kadouch-Kowalsky, 2003), even though there was a relationship between professional satisfaction and length of time in professional practice, with self-employed, open-minded, and psychoanalytically oriented practitioners experiencing more professional satisfaction (Topolinski & Hertel, 2007), there was no evidence of differing therapy outcomes between psychotherapists who experienced professional satisfaction or professionals who were not self-employed and were not psychoanalytically oriented. Furthermore, even though 88% to 97% reported their stance towards their clients as accepting, committed, friendly, involved, and warm, there is a dearth of objective assessments of client's experience of the rapport and working alliance. This inherent deficit of outcome and alliance information, especially in naturalistic studies, is possibly due to the lack of actuarial agencies and psychotherapists who routinely monitor ongoing outcomes of their clinical practice. As Wampold and Brown (2005) highlight:

Exacerbating this problem is that therapists typically are not cognizant of the trajectory of change of patients seen by therapists in general. That is to say, they have no way of comparing their treatment outcomes with those obtained by other therapists. (p. 922)

Brown, Dreis, and Nace (2006) elaborate further on this lack of focus on outcomes in psychotherapy services:

Credentials, professional discipline, and preferred theoretical models mean nothing if they cannot be translated into measurable improvement in the quality of clients' lives. In other words, the outcome rather than the service of psychotherapy is the product that therapists have to offer in the behavioral health care marketplace. Psychotherapists who fail to measure their outcomes in a reliable and empirically sound manner have no means to evaluate their own skills against those of their peers. More importantly, they are limited to relying on their own clinical judgment to assess the client progress... Mental health professionals need to pay attention to the voices of those they serve - their clients. (p. 403)

Based on the significant absence of such routine data gathering by practitioners, there is no clear empirical evidence of how highly effective psychotherapists develop in their profession, compared with other psychotherapists. Thus, advocates have been promoting the routine use of outcome measures in clinical practice, while emphasising the therapeutic benefits in increasing effectiveness via feedback effects (e.g., Hawkins et al., 2004; Lambert, 2010; Miller et al., 2006), and reducing no-improvement, deterioration, and drop-out rates (e.g. Hannan et al., 2005; Harmon et al., 2005; Harmon et al., 2007). As Rogers (1980) poignantly declared, "If we wish to become better therapists, we should let our clients tell us whether we are understanding them accurately!" (p. 149).

In summary, due to the lack of consensus in the current literature on how highly effective psychotherapists develop, it is hoped that, by investigating the skills acquisition and

maintenance of expert performance in various domains (e.g., sports, music, medicine and surgery), as explored in the next chapter, preliminary methodologies might be developed for the investigation of skilled acquisition and maintenance of highly effective psychotherapists.

## **Chapter 4: The Structure, Acquisition, and Maintenance of Expertise and Expert Performance**

In this chapter, a deliberate shift was made from psychotherapy research to the realm of cognitive sciences, specifically studying the development of expertise and expert performance in various professional domains. Experts have been operationally defined as "... those who have been recognized within their profession as having the necessary skills and abilities to perform at the highest level" (Shanteau, 1992, p. 255). By focusing on the development of expertise, it is hoped that parallels can be drawn from other fields, such as music, sports, chess, and medicine, which can illuminate the role of key mediating factors involved in the development of top-level performances within each of the disciplines.

Thus, a thorough literature review of the study of the development of expertise was conducted. Contemporary theories of skills acquisition typically focused on the acquisition of everyday skills, in order for the individuals to reach a level of proficiency to perform accurately and efficiently (e.g., Anderson, 1982; Anderson et al. 2004; Spelmann & Kirsner, 2009). Given the nature of the study investigating not just the psychotherapeutic skills acquisition of an average practitioner, but rather that of superior performing psychotherapists, emphasis was given towards the review of expert-performance paradigm, instead of the skill acquisition perspective of normal and beginning levels of performance. This consisted of the body of research investigating how experts use their intuition within the field of naturalistic decision making (NDM; e.g., Klein, 1997, 2004), as well as how exceptional individuals with superior performance in their fields acquire and maintain their skills across time, through the mediating effects of deliberate practice (e.g., Cote, Ericsson, & Law, 2005; Ericsson, 2006; Ericsson, 2008; Ericsson et al. 1993).

While it is beneficial to study professionals in their naturalistic work environment, some limitations of Klein's (2004) research on intuition was inherent, as it focused on the use of

patterns and schemas that the experts have already learned, rather than how these specific skills were acquired. Another critique of NDM research is that expert performance is typically defined based on peer judgement rather than quantifiable performance measures (Kahneman & Klein, 2009). Nonetheless, when Klein (1997) reviewed strategies adopted by experts in order to develop their ability in critical decision in naturalistic settings, these primarily included theoretical underpinnings of Ericsson and colleagues theory of deliberate practice (Ericsson et al., 1993). Moreover, the focus on this thesis is not to examine how expert psychotherapists execute these skills, but rather how highly effective therapists *develop* their skills, leading to expert performance across time. Further, as the specific investigation of therapist factors and work practices in highly effective practitioners is a relatively new area in psychotherapy research, a further review of Ericsson and colleagues' work on expert-performance approach was conducted for this thesis, in relation to deliberate practice, how it impacts the levels of performance in various fields, and finally, how this theoretical construct can be applied to the field of psychotherapy.

On a related note, in considering intrinsic factors that impact expert performance, a review of Dweck and colleagues' (e.g., Dweck, 2006; Dweck, Chiu, & Hong, 1993) work on how the implicit theory of abilities affect learning and development was conducted. Finally, since this is a relatively new area of enquiry of expert performance in psychotherapy, an inspection of the research methodologies employed by the researchers in this area of inquiry will also be examined in detail.

### **Deliberate Practice**

The progressive development of studies in expertise and expert performance has led to an impressive number of books related to this topic being published in recent times (e.g., Colvin, 2008; Coyle, 2009; Galdwell, 2008; Shenk, 2010; Syed, 2010). The overarching

theme that these authors espouse is based on Ericsson and his colleagues' proposal of "deliberate practice" (Ericsson, 1996; Ericsson, 2006a; Ericsson et al., 1993). Deliberate practice is defined as

...Individualized training activities especially designed by a coach or teacher to improve specific aspects of an individual's performance through repetition and successive refinement. To receive maximal benefit from feedback, individuals have to monitor their training with full concentration, which is effortful and limits the duration of daily training. (Ericsson & Lehmann, 1996, pp. 278-279)

In Ericsson and colleagues' (1993) pioneering paper, they defined deliberate practice as a set of tasks that is "rated very high on relevance for performance, high on effort, and comparatively low on inherent enjoyment" (p. 373). This type of practice is often focused, systematic, carried out over extended periods of time, guided by conscious monitoring of outcomes, and evaluated by analyses of levels of expertise acquired, identification of errors, and procedures implemented at reducing errors (Ericsson, 1996; Ericsson, 2006a; Ericsson et al., 1993). Ericsson and his colleagues asserted that merely executing skills proficiently during routine work does not lead to further improvement, highlighting the point that further improvements depend on the goal-directed efforts to improve particular aspects of the routine, even though the process of deliberate practice may not be inherently enjoyable. In addition, the incremental development of extended deliberate practice, rather than the presence of any innate talent (Ericsson, Roring, & Nandagopal, 2007; Ericsson, Nandagopal, & Roring, 2005), was found to mediate performance in multiple areas of expertise, such as in music (Ericsson et al., 1993; Krampe & Ericsson, 1996), chess (Gobet & Charness, 2006), sports (Cote et al., 2005), business (Sonnentag & Kleine, 2000), and medicine and surgery (Ericsson, 2007b; Mamede et al., 2007; Norman et al., 2006; Schmidt & Rikers, 2007). Ericsson and colleagues (1993) argue, "The search for stable heritable characteristics that

could predict or at least account for superior performance of eminent individuals has been surprisingly unsuccessful" (p. 365), with the exception of certain sporting activities (e.g., ballet dancers, basketball players) that have a prerequisite of certain physical endowment. Nevertheless, deliberate practice in a given domain does not provide magical or dramatic improvements of less skilled learners, rather it will help define the necessary pre-requisite cognitive skills and knowledge requirements for effective learning to take place (Ericsson, 2005).

Reviews of studies of learning and skills acquisition in various fields found three critical conditions that aided the participant's consistent gradual improvement through deliberate practices: (a) Instruction to improve on a specific area of a performance for a well-defined task, (b) immediate and detailed feedback regarding their performance, and (c) further opportunities to repeat the same or similar task so as to improve the performance (Ericsson, 2004; Ericsson et al., 1993). Furthermore, many of these high-level performers were mentored by devoted teachers and coaches, and had the ongoing enthusiastic social encouragement from their families through years of development (Hunt, 2006). It is also estimated that many of these top performers have invested in over 10,000 hours of deliberate practice over a span of approximately 10 years before achieving the expert status of mastery in their domain (Ericsson et al., 1993). Other studies have also shown that deliberate practice is not only important for the acquisition of superior performance, but also crucial for its maintenance (Ericsson, Nandagopal, & Roring, 2009; Krampe & Ericsson, 1996).

From a psychological perspective in the development of expertise, Feltovich, Prietula, and Ericsson (2006) reported that superior performance is domain-specific and is limited to the scope of expertise, with limited transferability of high-level proficiency from one domain to another, even if the domains seem similar (e.g., Ericsson & Charness, 1994; Ericsson et al., 1993). Based predominantly on the studies of chess Grand Masters (Charness, Tuffiash,

Krampe, Reingold, & Vasyukova, 2005; Chase & Simon, 1973; Simon & Chase, 1973), Feltovich et al. (2006) added that experts are often better able to store and retrieve from their memory related and relevant information into a higher order of units, that is, a “chunk”, as well having developed more complex and selective representations compare to novice performers, which allows them the immediate and assimilated access to relevant knowledge structures. Moreover, the mere accumulation of working experience does not guarantee the maturation of an expert; experience does not equate to expertise. Although some experts will at some point plateau in their performance and become disengaged from deliberate practice, evidence suggests that most superior performers *counteract automaticity* by developing increasingly complex mental representations in order to acquire higher levels of control of their performance (Ericsson et al., 2009). Finally, expertise requires the meta-cognitive engagement of self-reflecting about their own knowledge about their performance, while synergistically adapting the mass of knowledge and skills-set in order to perform a particular task efficiently and effectively (Feltovich et al., 2006).

From a theoretical perspective of deliberate practice, expert performance is mediated by “complex integrated systems of representations for the planning, analysis, execution, and monitoring of performance” (Ericsson, 2006, p. 698). Skill acquisition that leads to expert performance is seen as an extended series of gradual changes of the physiological and cognitive mechanisms that lead to associated improvement (Ericsson, 1996, 2004). The experts’ mental representations serve to mediate the performance while also provide the same learning mechanisms that can be incrementally modifiable, in order to enhance performance after focused practice. Deliberate-practice activities serve to stretch their performance beyond their current ability. The theoretical framework of deliberate practice asserts that improvements in performance are caused by changes in cognitive mechanisms, mediating how the brain and nervous system control performance (Ericsson, 2006).



In the next section, in order to provide an empirical platform as to how the study of expertise in psychotherapy can be conducted, a brief exploration of how the theory of deliberate practice was examined in four professional domains will be highlighted.

### **Expertise in Various Professional Domains**

**Expertise in music.** In an elegant series of studies with three groups of violinists (best, good, and music teacher participants), with 10 in each group from the Music Academy of West Berlin, Ericsson and colleagues (1993) systematically collected retrospective data of the musicians' past and current levels of practices and concentration. All of the musicians were asked to indicate the total amount of time spent on solitary practice with the violin for each year since they started playing. Finally, a one-week diary-log was kept by each of the musician's activities using a thirty-item pre-established taxonomy.

One of the most important findings in Ericsson and colleagues' (1993) study was that the "best" and "good" violinists spend three times longer than the music teachers in solitary practice with their instrument, averaging 3.5 hrs per day for each day of the week including weekends, compared with 1.3 hrs per day for the music teachers. In terms of the ratings of relevance, enjoyment, and effort for each of the 22 pre-established activities, there were no profile differences among the three groups of musicians. The two best groups, as compared to the music teacher group, also appeared to take more naps during the day. Using the one-week diary log, the analyses revealed that the best group spent less time on leisure, and more time on music-related activities, compared with the good group. Finally, the best musicians were also more accurate in judging their leisure time, compared with the good musicians, who tended to underestimate their leisure time.

Ericsson and colleagues' (1993) research is one of the first to validate the role of deliberate practice in the acquisition of expert performance. The results indicates the high predictive validity of cumulative amount of time spent on solitary deliberate practice in relations to expertise (Lehmann & Gruber, 2006).

**Expertise in sports.** There is no argument on the important function of amount of time spent on practice influencing the perceptual-motor and perceptual-cognitive skill development in the domain of sports (e.g., Cote et al., 2005; Ericsson, 2007a; Hodges, Starkes, & MacMahon, 2006; Starkes, Deakin, Allard, Hodges, & Hayes, 1996; Ward, Hodges, Starkes, & Williams, 2007). In a study comparing elite and sub-elite soccer players (Ward et al., 2007), the researchers found that elite players were more likely to invest in time and effort in decision-making activities during team practice, compared with the sub-elite players across age-cohorts. The elite players were found to have higher levels of motivation and parental support as well.

Similar findings were established with studies of rhythmic gymnasts (Law, Cote, & Ericsson, 2007). In a retrospective study comparing six elite (Olympic) gymnasts to a six sub-elite (international) gymnasts, the researchers found that the Olympic gymnasts spent substantially more time to specific practices (e.g., ballet, techniques, routines, conditioning), compared to the international gymnasts.

**Expertise in chess.** In De Groot's (1978)<sup>1</sup> pioneering experimental studies of top chess players, he identified challenging, representative situations in the chess game and required the chess players to make a decision about the next move. De Groot found that the players who had previously won more chess tournaments were more likely to choose better moves than players with lesser success at competitions. These elite chess players also had superior

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<sup>1</sup> First published in 1946.

ability in retrieval memory of chess positions, compared to the less successful counterparts. Follow-up research found that this higher-level ability pertained only to structured chess arrangements on the board, and not to random chess positions (Chase & Simon, 1973).

In an analysis of two large diverse samples (N= 239, and N = 180) recruited from four countries of tournament rated chess players, serious study alone (e.g., analysis of chess positions using chess books, magazines, databases) was the single most crucial predictor of a player's current chess rating (i.e., Elo rating) among a series of relevant chess activities (Charness et al., 2005). The combination of cumulative log hours spent on deliberate practice alone and years of private instruction accounted for approximately 40% of the variance in current Elo rating. In contrast, the relevance rating for improving at chess by actively participating in chess tournaments is not related to the chess player's rating, while the amount of time spent playing chess games outside of chess tournaments is negatively correlated to ratings (Charness, Krampe, & Mayr, 1996). It appears that the better chess players are aware of the positive impact of solitary study of chess positions and their performance in the game, although the effects of coaching did not appear to be significant, suggesting a more instrumental role in helping them develop a rigorous practice routine.

**Expertise in medicine and surgery.** The study of expertise in medicine and surgery is somewhat similar to the current situation in the field of psychotherapy. Ericsson (2007b) reviewed the way previous efforts to categorise medical expertise based on levels of experience (masters versus novices) was not correlated with superior performance. In comparing physicians' self-assessment and external measures of their competence, researchers found weak or no associations between the two ratings (Davis et al., 2006). Davis and colleagues highlighted that this discrepancy between self-rated assessments and external assessments was independent of "level of training, specialty, the domain of self-assessment, or manner of comparison" (p. 1100).

Nevertheless, consistent with other studies of the acquisition of superior (expert) performance, it was found that the effects of deliberate practice positively mediated patient outcomes between medical practitioners. It was also found that medical simulator training procedures that incorporated aspects of deliberate practice (Ericsson, 2004), such as goal-directed tasks and opportunities for repetition in an environment of feedback, improve learner outcomes (Issenberg, McGaghie, Petrusa, Lee Gordon, & Scalese, 2005; McGaghie, Issenberg, Petrusa, & Scalese, 2006). Further research has also demonstrated a significant transfer of learning into actual clinical practice (Park et al., 2007).

In summary, the empirical evidence gleaned from Ericsson and colleagues in various fields of research examining expert performance suggests that the role of intense, purposeful, and prolonged deliberate practice is significantly predictive of the acquisition and maintenance of superior performance.

**Expertise in psychotherapy.** Similar to reports by physicians, self-assessment reports by psychotherapists revealed that the least effective therapists rate themselves as the most effective therapists (Brown et al., 2006; Hiatt & Hargrave, 1995). Therapists are also more likely to overestimate their rates of client improvement and underestimate their rates of client deterioration (Walfish et al., 2012). As such, self-reported effectiveness is not likely to be a valid representation of actual competency.

Based on the above review of expertise and expert performance in various fields, a proposed re-definition of expertise in the domain of psychotherapy should be focused not just on peer-nomination or self-rated assessments, but should rather be based on the actual aggregated client outcomes that each individual psychotherapist has obtained within his or her work setting over a period of time (Seidel, Miller, & Chow, 2013). This form of measuring effectiveness is consistent with various reputed clinical trials (e.g., Anker et al.,

2009; Elkin et al., 1989), naturalistic outcome studies (e.g., Andrews, Twigg, Minami, & Johnson, 2011; Baldwin et al., 2009; de Beurs et al., 2011) and benchmarking studies (e.g., Minami et al., 2009; Minami, Wampold, Serlin, Kircher, & Brown, 2007) that account for the client-rated outcomes. If the development of expertise in psychotherapy is regarded similarly to the development of skills in other professional fields, the underpinnings and learning processes prescribed in the theory of deliberate practice would apply to the development of expertise in psychotherapy. Based on the deliberate practice theory of the acquisition of mental representations for performance and continued learning, clinical training activities could then emphasise the use of formal feedback mechanisms in clinical practice and supervisory setting to monitor performance, and for trainees to identify their baseline performance and plan for gradual steps towards improvement (Miller et al., 2013).

As the study of expertise in psychotherapy is relatively new at this point, research should endeavor to focus on superior performing therapists, as opposed to expertise confined within a certain arbitrary criteria or theoretical orientation (Friedberg, Kuyken, Padesky, & Dudley, 2010; Rector & Cassin, 2010). Since the work of any given psychotherapist is that of providing healing and therapeutic services to each of his/her clients, the emphasis should be on a patient-focused research paradigm (Howard, Moras, Brill, Martinovich, & Lutz, 1996), taking into account the client's voice, ideas, desired goals, and opinions about the service (Duncan & Miller, 2000; Duncan, Miller, & Sparks, 2004; Johnson & Shaha, 1996).

***Deliberate practice in psychotherapy.*** Rogers (1980) regarded reviewing recordings of his students' and his own sessions as a vital source of deliberate learning in order to improve as a therapist. Rogers further emphasised the importance of not just an intellectual form of learning, but rather an integration of cognitive and affective-experiential form of learning, not unlike the development of expertise in medicine and surgery (Norman et al., 2006).

In addition, although Ericsson (2005) suggested that such measurements of performance can be applied to many other domains of expertise, the working definition of what constitutes deliberate practice in psychotherapy has yet to be clearly defined. Nevertheless, K. A. Ericsson (personal communication, October 20, 2010) has provided some direction, suggesting a preliminary investigation using an *a priori* designed retrospective survey/interview questionnaire, eliciting aspects of deliberate practice that psychotherapists utilise in work and personal settings. Ericsson (2005) points to the importance of such a research:

Perhaps the most exciting and socially relevant implications for improved training are found in medicine and other professional domains (Ericsson, 2004), where there are limited evaluation and standardized assessment of individual differences in performance and no organized culture with coaching and deliberate practice. (p. 239)

### **Mindset**

In other related studies, social psychologists indicate the importance of a person's subscribed implicit theory of abilities in influencing their motivation and learning development of a particular skill (Dweck, 2006; Dweck, Chiu, & Hong, 1995). Based on Dweck's (2006) theoretical constructs of fixed mindset and growth mindset, the author states that a fixed entity theory of ability, or fixed mindset posits that a person is likely to view their abilities as innate and stable across time. The person is likely to believe that they can learn new things but can't change their ability. On the other hand, Dweck and her colleagues state that an incremental theory of ability, or growth mindset, suggests that the person is likely to believe that their abilities can be cultivated and developed throughout their lives. They believe that through effort and learning, they can become proficient over time (Blackwell, Trzesniewski, & Dweck, 2007).

For example, Grant and Dweck (2003) investigated the relations between mindset and achievement with 128 premed students who were enrolled in a challenging chemistry course. The researchers found that the students who focused on learning rather than proving that they were smart in the subject, scored better grades than the rest. In a longitudinal study (Blackwell et al., 2007) with 7<sup>th</sup> graders, the researchers found that those who believed that their intelligence is malleable (growth mindset) were more likely to improve their mathematic grades over the course of two years. Conversely, those who believed that their intelligence is fixed (fixed mindset), flat-lined in their trajectory of improvement in their mathematic grades. The growth mindset students were more likely to endorse a learning disposition, a belief that hard work was necessary for achievement, whereas the fixed mindset students had lesser regard for learning, were less likely to attribute setbacks due to a lack of ability, and were less likely to try harder in the future (Blackwell et al., 2007). In a previous study, as compared with a fixed mindset, students who endorse a growth mindset are also more likely to confront and remediate their deficiencies if their performance was found to be poor (Hong, Chiu, Dweck, Lin, & Wan, 1999).

Although it would be intuitive to assume that effective practitioners would endorse a growth mindset more than a fixed mindset, placing a higher premium on the impact of their efforts in learning and in the malleability of their ability, no study has yet to examine the area of implicit theory of abilities affecting performance in psychotherapy, as measured by client outcomes.

### **Research Methodologies of Studying Expertise and Expert Performance**

A variety of research methodologies have been employed in the study of the acquisition and maintenance of expertise in various domains. For example, laboratory studies were used to assess perceptual speed and motor abilities of typing proficiency (Keith & Ericsson, 2007);

the use of the think-aloud protocol analysis with chess players (Ericsson, 2006b; Ericsson & Charness, 1994; Ericsson & Simon, 1998; Fox, Ericsson, & Best, 2011); the use of recall protocols for medical professionals (Boshuizen, 2009; Norman et al., 2006; Schmidt & Rikers, 2007); evaluating pilot performance with flight simulations using a structured competency checklist (Schreiber et al., 2009); retrospective interviews of elite athletes' developmental profile and the development of performance across their profession (Cote et al., 2005); case study methodology for examining a memorist superior performance (Ericsson, Delaney, Weaver, & Mahadevan, 2004); and retrospective time-diary logs and analyses of concurrent practice activities in the study of elite musicians (Ericsson et al., 1993). The latter was first used in studying skilled wrestlers and figure skaters, in order to validate the construct of deliberate practice in a sports environment (Starkes et al., 1996). Both Ericsson et al. (1993) and Starkes et al. (1996) used a taxonomy of domain related activities, in order to prompt recall and report the amount of time spent on each of the specified activities. Ratings of relevance, cognitive effort, and level of enjoyment of each of the activities was provided by the participants. Both studies also went on to include a one-week diary log of participants activities, in order to cross-validate the time-use estimates that they previously reported.

Based on the review of research methodologies employed in the study of skills acquisition and maintenance of expertise as described above, there is a need to investigate the application of the deliberate practice theory within the field of psychotherapy, with the use of retrospective analyses of concurrent practice activities.

### **Summary of Literature Review**

An overview of the various common and specific contributing factors to the practice of effective psychotherapy was provided, along with specific emphasis on the historical basis of



the study of therapist effects, and the role of therapist factors impacting outcome. It is argued that the study of peer-nominated master therapists does not sufficiently illustrate the development of expertise and expert performance contributed by highly effective practitioners. Although elaborate, previous studies of the development of psychotherapists have not yet associated its findings with the different levels of performance of the individual clinician. The mediating factor of deliberate practice in skills acquisition and maintenance of expert performance was highlighted, as well as a brief review of the differential impact of fixed and growth mindsets about learning. Finally, a summary of various research methodologies employed in past studies of expert performance was examined, in order to shed light on the proposed research strategies in this thesis.

Taken together, the literature review in Chapters 2, 3, and 4, provides a platform to examine the key research aims, as summarised in Chapter 1. The next chapter will provide an overview of the methodology, research questions, and hypotheses that were tested. Chapter 6 will emphasis the significant contribution of this dissertation.

## Chapter 5: Research Questions and Hypotheses

### Overview of the Methodology

Briefly, this study examined data from psychotherapists operating within a practice research network (PRN) in the United Kingdom. This network of practitioners has been systematically and routinely collecting their clients' self-reported project information for approximately four years. Archival data of their outcomes, and available information about client psychological functioning were used for the investigation. Further specific information about the therapists' work involvements, beliefs about their work, and professional practices were collected with a sub-sample of the therapists via an online questionnaire. That is, therapists who were represented in the archival data were invited to participate in the second study on a voluntary basis.

As the data has a nesting structure with clients nested within therapists, and therapists nested within therapists' treatment sites (see Figure 1), a statistical technique called multilevel modeling (MLM) approach (sometimes referred to as hierarchical linear modeling) was adopted (Raudenbush & Bryk, 2002; Snijders, 1999). MLM can analyse client outcomes within the context of a hierarchical design (Wampold & Serlin, 2000). MLM has several advantages compared with multivariate repeated measures, such as ANOVA and ANCOVA. MLM does not assume independence of observations like repeated measures analysis of variance (Raudenbush & Bryk, 2002; Tasca & Gallop, 2009). It can deal with unequally spaced data collection points, and it is robust to unequal group sizes, i.e., different numbers of clients per therapist; and it has relatively few assumptions (e.g., Bryk & Raudenbush, 1987; Dimitrov & Rumrill, 2003). MLM is also particularly suitable for naturalistic studies. It allows the researcher to model individual change across time, even though they might be missing data at certain points of the data collection. Furthermore, MLM does not require the

data to meet the sphericity assumption employed in repeated measures ANOVA. Last, the researcher can also model nonlinear change in the participants. This statistical technique is able to partition variation in an outcome variable into its between-group and within-group segments (Heck, Thomas, & Tabata, 2010), such as estimating the variability in outcomes attributable to the therapists (i.e., the intraclass correlation coefficient) (e.g., Crits-Christoph & Mintz, 1991; Kim et al., 2006; Wampold & Brown, 2005), and computing the contribution of therapist explanatory variables into the analysis (Beutler et al., 2004).

This dissertation is organised into two separate, but related studies. Study I examines the complete cohort of 69 therapists within the PRN, using existing information about clients and therapists to examine the contribution of client and therapist factors that influence client outcome. Client outcomes refer to client-rated scores about their subjective well-being. Emphasis on the contribution of therapist variability is given in Study I, after controlling for clients' initial psychological functioning and treatment sites. Next, in order to facilitate interpretation of therapist performance in Study II, therapists are ranked according to their effectiveness levels in Study I.

Study II is based on a sub-sample of 17 therapists who responded to a detailed on-line questionnaire relating to their professional development and work practices. Further analyses were conducted, in order to examine a variety of therapist predictors that account for the variability between therapists' performance.

## **Research Questions**

Based on the primary objectives of this investigation, the following research questions and hypotheses for Study I and II are delineated to guide this research:

Study I:

1. After adjusting for clients' initial severity and accounting for differences in treatment sites, what is the proportion of variability in client outcomes that is attributable to therapists in a practice research network (PRN) setting?
2. Based on the existing information about the therapists in this cohort, what are the therapist factors (e.g., gender, age, caseloads) that account for the variability in client outcomes?

Study II:

3. To what extent do the types and amount of time spent by therapists in domain related deliberate practices, as defined by Ericsson, et al. (1993), predict client outcomes?
4. Does therapists' use of formal measures to elicit feedback about the session (i.e., Session Rating Scale) predict client outcomes?
5. To what extent does the development of a psychotherapist, as defined by Orlinsky and Ronnestad (2005), influence client outcomes? Specifically, how do the factors of healing involvement (HI) and stressful involvement (SI) in work experience, currently experiencing growth, motivation to develop, and perceived career development predict variability in client outcomes?
6. Given that therapists in this cohort monitor their outcomes, how much does their self-assessment of their overall effectiveness, in relation to other therapists in the study, predict client outcomes?
7. To what extent does differing mindsets, according to Dweck's (2006) attribution model of a fixed entity theory of ability (i.e., Fixed Mindset), and an incremental theory of ability (i.e., Growth Mindset), predict differences in client outcomes?

## Hypotheses

### Study I

- H1: After adjusting for initial severity and accounting for treatment site differences, a significant proportion of the variation in outcome will be due to therapists.
- H2: Therapists factors such as demographics (e.g., gender, age) and caseloads are likely to explain a small proportion of the variance in client outcomes.

### Study II

- H3: Time spent by therapists in solitary practice aimed at improving therapeutic engagement (i.e., deliberate practice) will predict client outcomes.
- H4: Therapists' use of formal measures to elicit feedback about the session (i.e., Session Rating Scale) will predict client outcomes.
- H5: The dimensions of healing involvement (HI) in work experience, overall current development, currently experiencing growth, and motivated to develop in their therapeutic work setting will predict client outcomes.
- H6: Therapists' self-assessment of their overall effectiveness is likely to be predictive of client outcomes.
- H7: An endorsement of an incremental theory of ability (i.e., growth mindset), as opposed to a fixed entity theory of ability (i.e., fixed mindset), will predict client outcomes.

## **Chapter 6: Significance of this Research**

Based on the literature review conducted on psychotherapy outcomes, the study of therapist effects, and the structure, acquisition and maintenance of expert performance in other professional fields, specific contributions from Study I & II in this dissertation relating to the therapists' deliberate practices and professional development impacting client outcomes are highlighted in this section.

With regards to Study I, this is also the first study to account for differences between treatment sites by employing a three-level multilevel model (MLM) (Raudenbush & Bryk, 2002; Snijders & Bosker, 1999). In other words, as suggested by Kahn and Schneider (2013), the data structure is hierarchically designed with clients (i.e., Level 1) nested within therapists (i.e., Level 2), and therapists nested within treatment sites (i.e., Level 3). Previous studies have employed three-level MLM, but instead explored the patterns of change across time with sessions (i.e., Level 1) nested within clients (i.e., Level 2), and clients nested within therapists (i.e., Level 3) (Lutz et al., 2007). No study has yet to adjust for possible variation between treatment sites in a naturalistic study design using a MLM research design. This is crucial in order to account for outcome differences that might be due to variability among treatment sites. If differences treatment sites were not accounted for, erroneous conclusions about the differences between therapists in different workplace might be made, that is, differences in therapist performance might be due to contextual differences in treatment sites. Finally, other than a recent study by Saxon & Barkham (2012), Study I is the only other research that examines therapist variability in a practice research network (PRN) setting. Typically, practitioners located within a PRN work in a variety of clinical settings, and are not from one organisation. Their collaboration and commitment as a PRN is to use their work setting as a means to generate practice-based knowledge. Thus, it is crucial to examine if

differences in therapist performance in a PRN setting, while accounting for the fact that clients and therapists are nested in different treatment sites.

Currently, little is known about therapist professional development factors and work practices relating to the effectiveness of psychotherapists (Beutler et al., 2004; Miller et al., 2010). Build upon the results gathered in Study I, Study II provides preliminary insights into various therapist work practices that predict client outcomes, investigating psychotherapists collaborating in a PRN setting where they routinely and systematically elicit feedback from clients via outcome measures. Specifically, Study II will investigate the relationship between the psychotherapists' types and amount of specific deliberate practices, the use of feedback mechanisms in-sessions, self-appraisal of work involvements, self-assessment of their own effectiveness, and the mindsets about their abilities, in relation to their overall client outcomes.

One of the key contributions of this research is the development of a retrospective protocol examining therapists' work practices and a variety of self-evaluations about their clinical practice. To my knowledge, no previous study has yet to examine therapist effectiveness from the expertise and expert performance paradigm. What is of significance is the application of deliberate practice theory to the field of psychotherapy. The application of an expert-performance approach to skill acquisition and maintenance framework to expertise in psychotherapy may provide a unifying theoretical account of the underlying learning mechanisms that contribute to therapist performance, and explain the differences between the highly effective therapists and from the rest of their cohort. As the field has yet to examine therapist effectiveness in terms of the types of professional practices, the protocol was developed largely from studying the investigations of top performers in other professional domains.

Another contribution of this current investigation is its focus on the study of therapist effectiveness in “real-world” settings, as opposed to clinical trials. The former is described as *effectiveness* studies, and the latter as *efficacy* studies (Seligman, 1995). Despite the logical benefits and rigor of conducting clinical trials in a controlled setting, many have argued that the artificial context is not representative of the service delivery in practice-based contexts. Wampold’s (2001) recommendation of conducting effectiveness studies instead of efficacy studies requires clinicians to systematically and routinely monitor their clients’ outcomes (Lambert, 2010). From the standpoint of a practice-based *effectiveness* research, the data collected in this study are conducted in a real world setting, with obvious practical implications to clinical practice (Barkham, Stiles, Lambert, & Mellor-Clark, 2010), and is able to account for the limitations highlighted above by Seligman (1995).

It is likely that these research findings will further contribute to the training and continuous professional development of other psychotherapists, with an emphasis on extrapolating work practices from highly effective psychotherapists’ methods of deliberate practice, skills acquisition, and maintenance. This was previously emphasised by several prominent psychotherapy researchers (e.g., Miller et al., 2010; Okiishi et al., 2006; Snyder & Ingram, 2000). Based on past evidence and their studies on the variability of therapist effectiveness, Okiishi and colleagues aptly pointed out, “It is arguable that the identification and study of the individual psychotherapist may be a highly effective way of improving the effects of treatment.” (2006, p. 1170)

The results of this research will also assist practitioners in delineating areas to structure skills training, in order to aid actuarial improvement in their clinical outcomes. As recent evidence suggests that highly effective psychotherapists possess well-developed domain-specific skills in the interpersonal realm of psychotherapy (Anderson et al., 2009), this study



seeks to imitate parallel learning from other fields, on the acquisition and maintenance of expertise and expert performance.

## Chapter 7: Study I Methodology

### Participants

**Inclusion criteria.** In order to be eligible for the present study, participants were required to be trained psychotherapists, psychologists, social workers, marriage and family therapists, counsellors, or trained Human Givens therapists (for further information, see section on Therapists). Based on previous recommendations, all therapist caseloads needed to have 10 or more clients with at least a pre and a post outcome measure (e.g., Imel, Hubbard, Rutter, & Simon, 2013), with each client needing to have attended for at least two sessions. Clients must have been aged 18 or above.

**Therapists.** The Human Givens Institute Practice Research Network (HGIPRN) is a group of practitioners from different organisations within the United Kingdom. All participating therapists were trained in Human Givens approach (Griffin & Tyrrell, 2004) and accredited either through Human Givens Institute (<http://www.hgi.org.uk/>) or with other professional bodies such as British Association of Counselling and Psychotherapy, or British Psychological Society (practitioners already suitably accredited through earlier study sometimes choose, or indeed were obliged, to maintain their accreditation with their original organisations. What they sought in HG training were the practical skills that they could then apply in their work). The HGI accreditation process involves a programme of peripatetic training delivered through the Human Givens College (<http://www.humangivenscollege.com>), a rigorous process of assessment, supervision and examination, including the submission of video examples of student work, an on-going commitment to supervision, and continuing professional development. However, there was not strict adherence check in this study to the approach of the Human Givens approach to psychotherapy. In naturalistic practice settings, it is typical to expect that therapists are more

likely to adopt an integrative approach in their service delivery, in order to match their methods with the clients' needs.

Therapists within this PRN are committed to gathering contextual and outcome data, using the same instruments, with every service user at every session ([www.hgiprn.org](http://www.hgiprn.org)). HGIPRN started formally measuring outcomes for routine and research purposes from 2007. Briefly, Human Givens approach is a form of holistic approach to psychotherapy, with its overarching aim at addressing unmet emotional needs and unhelpful emotional patterns (Griffin & Tyrrell, 2004). Practice research networks (PRNs) are defined as collaborations of practicing providers who commit to using their work settings as laboratories for practice-based knowledge generation (McMillen, Lenze, Hawley, & Osborne, 2009). Participation is strictly on a voluntary basis.

In the whole sample, 223 therapists from HGIPRN were involved in the treatment of 12,822 clients. Within this PRN, 45 organisations were involved in this study. Based on the inclusion criteria of therapists with more than 10 adult cases, consisting of 2 or more sessions, the number of therapists was reduced to 69. The number of organisations remained at 45, serving the needs of 6,618 clients (4580 clients with 2 or more sessions). To ensure independence at the organisational level (several therapists practiced at more than one organisation), organisations were partitioned into six conceptually distinct between-therapist categories. Information about therapist's gender, age range, and types of organisation are provided in Table 3. Nine out of the 69 therapists were working in more than one of the organisational categories. For the purposes of analysis, each of the nine therapists was coded with a primary organisation based on the largest number of clients they have seen. Based on the total caseload among the 69 therapists, the mean caseload of each therapist with more than 1 session is 66.38 ( $SD = 70.03$ ,  $Mdn = 40.00$ ;  $Min = 10$ ;  $Max = 335$ ).

**Clients.** A total of 12,822 cases seen were by the therapists in the practice research network (PRN), within the period of October 1<sup>st</sup> 2007 to Dec 13<sup>th</sup> 2011. Based on the inclusion criteria, 6,618 clients remained after removing the therapists' caseloads below 10. The total number of clients with more than 1 session was reduced to 4580. Due to the naturalistic design of this study, some client demographic data is missing.

Out of this total number of clients, 3923 (85.7%) were formally assessed as being accepted for therapy at the end of the first session. The mean age for the 4580 clients was 40.04 (*Mdn*: 40.00; *SD*: 12.86), and 2999 (65.5%) were females and 1580 (34.5%) were males. One client's gender was not specified. The majority of the client's ethnicity was described as White (66.2%). Consistent with most mental health service settings, the majority of clients seen by therapists in this PRN presented with mild to severe range of concerns relating to anxiety and stress ( $N = 3670$ ; 74.90%), followed by depression ( $N = 2690$ ; 59.58%)<sup>2</sup>. A total of 3632 out of the 4580 clients provided information about the use of medication. In terms of psychiatric medications, 2277 (45.7%) clients were prescribed the use of drug interventions, with 1416 (88%) of them were on antidepressants, 255 (15.8%) were on anxiolytics, and 82 (5.1%) were on antipsychotics. The average number of sessions attended was 4.72 ( $SD = 3.83$ ). A total of 2503 clients (54.7%) established a planned ending to their treatment process with their therapist, whereas 947 clients (20.7%) indicated that they had an unplanned ending. In terms of termination, 1130 clients (24.7%) had not indicated if they had a planned or unplanned ending. Further details of the client population are provided in Appendix E (Table E1, E2, & E3).

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<sup>2</sup> The total proportion did not add up to 100% as several clients had co-morbid concerns of anxiety, stress, and depression.

Table 3

*Description of Therapist Sample in Study I (N = 69)*

Description		N	%
Gender:	Males	28	40.6
	Females	38	55.1
	Missing	3	4.3
	Total	69	100
Age Range:	25 or under	1	1.4
	26-40	3	4.3
	41-55	36	52.2
	56-60	6	8.7
	61 or older	7	10.1
	Total	53	76.8
	Missing	16	23.2
	Total	69	100.0
Organisation:	Private	27	39.1
	Voluntary Sector	29	42.0
	Primary Care (NHS)	6	8.7
	Insurance Based	2	2.9
	Secondary Care (NHS)	3	4.3
	Occupational Health & Counselling	2	2.9
	Missing	0	
	Total	69	100.0

**Measures.** There was one primary outcome measure utilised for the analysis in Study I: the Clinical Outcome in Routine Evaluation (Barkham et al., 2001; Barkham, Mullin, Leach, Stiles, & Lucock, 2007; Connell et al., 2007; Evans et al., 2000).

***Clinical Outcome in Routine Evaluation-Outcome Management (CORE-OM).*** The CORE-OM (Barkham et al., 2001; Connell et al., 2007; Evans et al., 2000) is a 34-item questionnaire addressing domains of subjective well-being; symptoms (anxiety, depression, physical problems, trauma); functioning (general functioning, close relationships, social relationships) and risk (risk to self, risk to others). Items are scored on a zero to four Likert-type scale (from *Not at All* to *Most or All of the Time*) rated over the past week and the

clinical score is the mean of all items multiplied by 10. The recommended cutoff between clinical and non-clinical populations is 10 (Connell & Barkham, 2007). The CORE-OM includes a mixture of positively- and negatively-framed, and high and low-intensity items. The internal consistency of the CORE-OM has been reported as  $\alpha = .94$  and the 1-week test-retest reliability as Spearman's  $\rho = .90$  (Evans et al., 2002). Using the Evans and colleagues initial assessment, internal consistency for this sample was  $\alpha = .93$  (CORE-OM;  $n = 101$ ), which was equivalent to the high reliability reported in previous studies.

Given that the derivative short-form of CORE-OM, CORE-10 was mainly utilised for administration to clients in the second and subsequent sessions, the CORE-10 pre-post scores were used as the primary outcome measure (see Appendix B). A high correlation ( $r = .94$ ) between the two measures and similar overall effect sizes ( $d = 1.41$  [CORE-OM] vs.  $d = 1.27$  [CORE-10]) was observed in a previous study (Andrews et al., 2011). The coefficient alphas for the CORE-OM and CORE-10 were  $\alpha = .93$  and  $\alpha = .82$ , respectively. As expected, reliability of the CORE-10, while lower than the CORE-OM, given its brevity, was psychometrically acceptable. In addition, a recent follow-up study to the Andrews and colleagues (2011) study established that the shorter form CORE-10 was a clinically pragmatic alternative to the longer form CORE-OM (Andrews, Wislocki, Short, Chow, & Minami, 2013).

### **Data Analysis**

In Study I, archival data of outcomes collected was retrieved from the Human Givens Institute Practice Research Network (HGIPRN), which was used for the analyses. Similar to previous studies (e.g., Kim et al., 2006; Wampold & Brown, 2005), after adjusting for the initial severity of clients' psychological functioning (i.e., first session CORE-10 scores), the last outcome score was used. As recommended in previous psychotherapy outcome studies (e.g., Baldwin et al., 2007; Gallop & Tasca, 2009; Kahn, 2011; Tasca & Gallop, 2009;

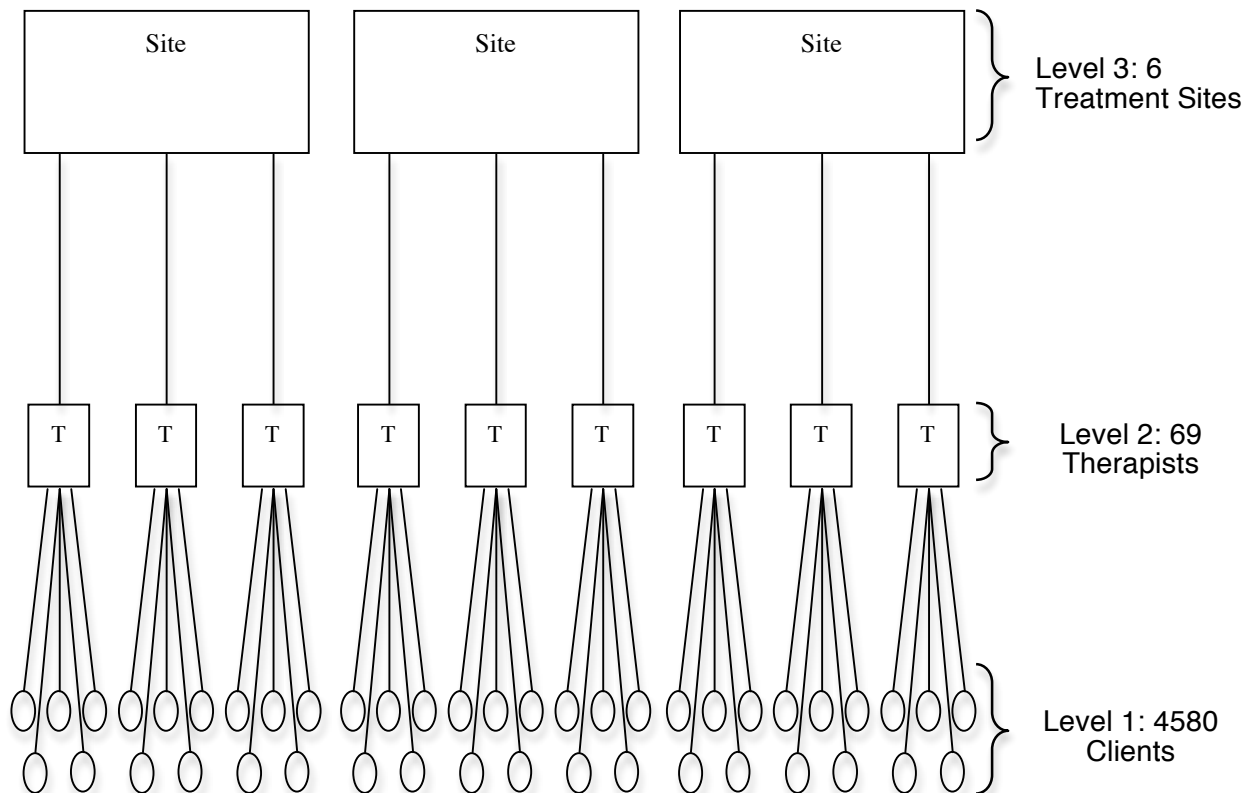
Wampold & Brown, 2005), MLM was applied to the analysis of Study I, with client outcomes nested within therapists and therapists nested within treatment sites.

The current research questions were addressed using MLM as implemented through SPSS's Linear Mixed Models (SPSS Version 19). Model parameters were estimated with maximum likelihood (ML) rather than restricted maximum likelihood (REML). With sufficiently large data sets, such as the present one, ML and REML produce essentially the same results; however, ML is preferable to REML when using the change in log likelihood to compare the fits of two successive (nested) models (Heck et al., 2010). All non-categorical explanatory variables were grand mean centered (Heck et al., 2010; Raudenbush & Bryk, 2002; Wampold & Brown, 2005). This facilitates interpretation of the intercept.

Based on previous researchers' recommendations in analysing counselling and psychotherapy outcome studies, (Baldwin et al., 2007; Gallop & Tasca, 2009; Kahn, 2011; Tasca & Gallop, 2009; Wampold & Brown, 2005), the HGIPRN data was analysed at different levels using MLM (Raudenbush & Bryk, 2002). In the first stage of Study I, MLM was conducted analysing client outcomes within the context of a hierarchical design in which clients (i.e., level 1) are nested within therapists (i.e., level 2), and therapists are nested within treatment sites (i.e., level 3) (Wampold & Serlin, 2000) (See Figure 1). An unconditional model (i.e., no predictors) was first introduced in the analysis, followed by an adjustment of client's initial severity of functioning (i.e., pre-scores as a co-variate), which serves as a base model for comparison with subsequent models. Next, therapist explanatory variables were introduced to the model, followed by an examination of client and corresponding aggregated therapist explanatory variables.

**Power.** In total, 4580 clients contributed data to the regression models; but only 69 therapists who were their treating practitioners contributed. Moreover, each therapist contributed a single score, albeit multiple times across clients. The power of the regression models would therefore be largely constrained by the number of therapists. The most

complex regression model included a covariate (pre-test CORE), and three therapist level predictors (therapist caseload, age, and gender). The power of this regression model can therefore be roughly estimated by determining the power of a single-level regression model with 69 cases, one covariate, and three primary predictor. According to G\*Power (Faul, Erdfelder, Buchner, & Lang, 2009; Faul, Erdfelder, Lang, & Buchner, 2007), at an alpha-level of .05, the model would have a power of .8 to detect ‘moderate’ relationships ( $f^2 = .12$ ; Cohen, 1992) between client and therapist variables. Less than moderate client/therapist relationships might therefore be lost. Sixty-nine therapists should provide the less complex regression models with equivalent or higher levels of power.



*Figure 1.* Hierarchical data structure illustrating clients nested within therapists, and therapist nested within treatment sites.

At the second stage of Study I, in order to facilitate further exploration of the sub-sample of 17 therapists who completed the survey in Study II, a rank ordering of therapists based on their performance was undertaken. This ranking process allowed therapists to be segmented



into quartiles, and also allowed comparison of performance based on related effectiveness criteria (e.g., clinically improved, clinically recovery). For clarity, a step-wise approach was adopted (see section in Multilevel Modeling Regression Analyses, p. 72) to systematically examine each of the research questions, so as to account for the various predictors that contribute to the between-therapist differences.

## **Procedure**

**Recruitment.** Ethics approval was obtained from Curtin University's Human Research and Ethics Committee prior to commencement of the data collection with HGIPRN. Prior to the commencement of therapy sessions, HGIPRN utilises a methodology for naturalistic setting outcomes audit based on recommendations made by the Department of Health (2004) in the United Kingdom. As part of the practice research network database, all participating therapists in Study I who voluntarily used the outcome measure consent to the data being used anonymously for research purposes. Research using the HGIPRN database was approved by the Evidence Based Practice Committee of Luton Teaching Primary Care Trust (Andrews et al., 2011). Informed consent specifically pertaining to this Study II was obtained for participating therapists. Informed consent has been sought and obtained from all participating clients within the agencies for allowing the anonymous data to be used in research as part of the practice research network database. All participating therapists and clients were given the option to opt out of using the outcome measure at any point in time. In order to protect therapists' anonymity, they were assigned three-digit codes numbers for the purposes of the analysis. Clients were de-identified in the dataset. All data and documents are kept in a secured, password protected environment.

## Chapter 8: Study I Results

### Assumption Testing

**Independence of observations.** There are intra-therapist and intra-site dependencies in the client data. By analysing client outcomes within the context of a hierarchical data structure in which clients are nested within therapists, and therapists are nested within sites, the MLM regression analysis is able to model these dependencies.

**Normality.** The Linear Mixed Models procedure requires the client outcome scores to be normally distributed. This was true for the pre-test scores, but the within-therapist histograms of the post-test scores suggested a positive skew. The skew was more evident after collapsing across therapists. A square root transformation reduced the skewness coefficient from .858 ( $SE = .042$ ) to  $-.069$  ( $SE = .042$ ). Because MLM analyses conducted on the raw post-test scores and the square root transformed post-test scores produced similar results, only the raw score results are reported.

**Homogeneity of variance.** The Levene's test for homogeneity of between-therapist variability for the post-test client outcomes was violated  $F(68,4511) = 3.891, p < .001$ . The parameter estimates of the covariance matrix were therefore computed with robust statistics.

**Missing values.** Because clients had to have attended the pre-test and post-test evaluations in order to be included in the analysis, there were no missing values for client outcomes. Missing values on the explanatory variables (namely, therapist age and gender, number of sessions attended, planned endings, and caseload) were not replaced.

### Multilevel Modeling Regression Analyses

For Study I, the results are organised into five sections:

1. Determining the between-therapist variability in client outcomes.
2. Determining the contribution of the client's initial severity to the between-therapist variability in client outcomes.

3. Determining the contribution of therapist-level variables to the total variance in client outcomes.
4. Determining the relative contributions of additional client-level variables, and the corresponding aggregated therapist-level variables, to the total variance in client outcomes.
5. Rank ordering the therapists in terms of adjusted client outcomes.

### **Step 1a: Determining the Between-Therapist Variability in Client Outcomes**

The Linear Mixed Models procedure (SPSS Version 19) was used to test a multi-level regression model in which clients were nested within therapist. The final (post-test) CORE-10 score, unadjusted for initial (pre-test) CORE score, provided the client outcome. There were no explanatory variables in the model and therefore no fixed effects. The model included just the two random effects of client and therapist. This regression model is often referred to as the null model.

The ratio of between-therapist variance (4.1622) to the sum of the between-therapist and within-therapist variance (60.9827) provides an estimate of the proportion of total variance in client outcomes that is attributable to the therapist factor. This estimate is referred to as the intra-class correlation (ICC), which refers to the degree of dependence of individuals upon a higher order to which they belong (Hox, 2010; Kreft & Leeuw, 1998). In this context, this reflects the degree of common experiences of clients seeing the same therapist. The ICC is represented as the following equation (Kahn, 2011; Wampold & Serlin, 2000)

$$\rho = \sigma^2_B / (\sigma^2_B + \sigma^2_W)$$

where  $\sigma^2_B$  and  $\sigma^2_W$  stand for between groups and within groups respectively. In short, the ICC is the ratio of between-groups variance to the sum of between- and within-group variance (see Table 5). The following is the ICC for the HGIPRN database:

$$\rho = 4.162 / (4.162 + 56.8206) = 0.0682 \quad [\text{Equation 1}]$$

In the present analysis, the ICC indicated that 6.82% of the total variance in client outcomes is attributable to the therapist factor. This is a statistically significant proportion of variance (Wald  $Z = 4.37$ ,  $p < .001$ ). Although not of interest to this specific research, it is worth stating that there is also significant *within*-therapist variability (Wald  $Z = 47.514$ ,  $p < .001$ ).

The statistical reliability (Rel) of each therapist's mean post-test CORE-10 score can be calculated using the following equation:

$$\text{Rel} = 4.165 / (4.165 + [56.820] / n),$$

where  $n$  is the number of clients seen by the therapist. The reliabilities range from .524 for the therapist with 10 clients to .973 for the therapist with 335 clients.

**Step 1b: Between-Site variance.** In the present study, therapists were nested within one of six sites: Private sector, voluntary sector, primary care (NHS), secondary care (NHS), insurance, and occupational health and counselling. When the third level of nesting (clients at Level 1, therapist at Level 2, site at Level 3; random effects model) was incorporated into the null model, the ICC was reduced from .0683 to .0535 indicating that 5.35% of the total variance in client outcomes is attributable to the therapist factor. The ICC for the therapist-nested-within-site factor was based on the following:

$$\rho = 3.193 / (3.193 + 56.514) = 0.0535$$

This is still a statistically significant proportion of variance (Wald  $Z = 3.842$ ,  $p < .001$ ). The reduction of ICC in this model from the previous null model accounts for 20.20% ( $1 - [0.054 / 0.068] = 0.2020$ ) of the total variance in client outcomes. In addition, using the reduction in variance estimate ( $R^2$ ) (Heck et al., 2010), 23.29% ( $[4.162 - 3.193] / 4.162 =$

0.2329) of the variance in treatment sites is explained by the level 2 component (i.e., therapists). A one-way ANOVA revealed significant differences ( $F[5, 4573] = 30.25, p < .001, \eta = 0.032$ ) in client outcome among the following pairs of treatment sites: voluntary sector and occupational health and counselling ( $\beta = 3.64, SE = 0.69, p < .001$ ); primary care (NHS) and occupational health and counselling ( $\beta = 1.67, SE = 0.73, p = .023$ ); and secondary care (NHS) and occupational health and counseling ( $\beta = 3.82, SE = 1.08, p > .001$ ). As seen in Table 4, on average, the occupational health and counselling treatment site achieved the best outcomes (i.e., lower scores have better outcomes), followed by the insurance treatment site, and then by those clients seen in a private setting. Clients seen in a secondary care (NHS) setting, on average, achieved the poorest outcomes, in comparison to other treatment sites. However, due to the small sample sizes in three out of the six of the treatment sites (primary care, insurance, secondary care, and occupational health and counseling), limited inferences can be made about their differences. Moreover, Monte Carlo studies (e.g., Bell, Ferron, & Kromrey, 2008) have shown that having units with only one observation at the highest level had no impact on the accuracy of the confidence intervals for the lower level predictors. The implication of these findings is that having a small number of therapists in some of the treatment sites will not influence the accuracy of the confidence intervals for the therapist and client predictors.

Nonetheless, since this analysis did not take into consideration the effects due to therapists even after accounting for treatment sites (i.e., Level 3), a significant proportion of therapist variability is still unexplained. To avoid model misspecification, the three-level model was thus retained for all subsequent analysis.

Table 4

*Adjusted Client Outcomes Scores for Six of the Treatment Sites*

Sites Re-categorised into 6 categories	N	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Private	27	10.288 <sup>a</sup>	.176	9.943	10.632
Voluntary Sector	29	12.749 <sup>a</sup>	.147	12.461	13.037
Primary Care (NHS)	6	10.780 <sup>a</sup>	.296	10.200	11.360
Insurance	2	9.807 <sup>a</sup>	.526	8.776	10.838
Secondary Care (NHS)	3	12.933 <sup>a</sup>	.851	11.265	14.601
Occupational Health & Counselling	2	9.112 <sup>a</sup>	.669	7.800	10.424

*Note.* a. Covariates appearing in the model are evaluated at the following values: Raw Pre-test CORE = 20.0932.

### **Step 2: Determining the Contribution of the Client's Initial Severity to the Between-Therapist Variability in Client Outcomes**

The previous analysis established significant between-therapist variability in client outcomes. This analysis in Step 2 attempts to identify the client variables that might contribute to this variability. Perhaps the between-therapist variability in client outcomes merely reflects between-therapist variability in client initial severity (i.e., pre-test CORE scores). If this is the case, then the between-therapist variability in client outcomes should be significantly reduced when the post-test CORE scores are adjusted for their corresponding pre-test CORE scores. Pre-test CORE scores were grand mean centred, which facilitates interpretation of the intercept in the regression solution, and included in the model as a covariate.

As expected, pre-test CORE scores significantly predicted post-test CORE scores ( $\beta = .4725$ ,  $F[1, 4576.15] = 1151.31$ ,  $p < .001$ ). Prior to including the pre-test CORE scores as a covariate (refer to the previous null model in Step 1b), the therapist factor accounted for 5.35% of the total variance in client outcomes (see Equation 1). After including the client pre-test scores as a covariate (the present model), the therapist factor accounted for 5.1% of

the total variance in client outcomes (see Equation 2). This is still a statistically significant proportion of variance (Wald  $Z = 3.84$ ,  $p < .001$ ).

$$\rho = 2.4262/(2.4262+45.206) = 0.051 \text{ [Equation 2]}$$

The estimate of between-therapist variance in client outcomes provided by the previous null model did not control for inter-client variability in pre-test severity. The present estimate does. Subtracting the present estimate (2.4262) from the null estimate (3.193) and then dividing by the null estimate (3.193) gives the proportion of between-therapist variance in client outcomes that can be explained by inter-client variability in pre-test severity (.240 or 24%). In other words, 24% of the variation between-therapists can be attributed to differences in the client's initial severity of psychological functioning. This is also known as the reduction in variance estimate ( $R^2$ ) (Heck et al., 2010) (see Equation 3). Henceforth, the term '*adjusted* client outcomes' will refer to the post-test CORE scores adjusted for their corresponding pre-test CORE scores. For the purposes of this study, this is termed as the *base model* (Hox, 2010), since it is crucial to account for the initial severity before the commencement of therapy. Thus, subsequent MLM steps will compare with the base model, in order to reflect the reductions in ICC, as well as deducing explained variances at each level of the MLM hierarchy.

$$R^2 = (3.193 - 2.4262) / 3.193 = 0.24015 \text{ (Equation 3)}$$

Since therapists in a "real world" setting typically do not have much control of the types of clients that they see, client factors are not the focus of this thesis. Notwithstanding, it is possible to consider if, other than the pre-test CORE scores, clients' demographics and initial psychological functioning variables would impact on outcome. First, client demographic variables (gender and age) were added into the regression model. Other than the pre-test CORE scores, neither gender nor age was a significant predictor of the adjusted client outcomes (Pre-test CORE score:  $\beta = .47$ ,  $SE = .02$ ,  $F[1, 3946.35] = 987.23$ ,  $p < .001$ ; gender:

$\beta = .45$ ,  $SE = .23$ ,  $F[1, 3794.95] = 3.76$ ,  $p = .053$ ; age:  $\beta = .02$ ,  $SE = .01$ ,  $F[1, 3940.25] = 3.31$ ,  $p = .077$ . After including the client demographic variables into the MLM, the ICC indicated that 4.34% of the total variance in client outcomes is attributable to the therapist ( $2.012/[2.012+44.334] = 0.043$ ). This is still a statistically significant proportion of variance (Wald  $Z = 3.28$ ,  $p = .001$ ).

Second, in order to examine if client variables related to their initial psychological functioning impacts outcome other than the pre-test CORE scores, clients' severity ratings of the presenting concerns, chronicity (i.e., longest duration of a presenting problem), the number of presenting concerns, and whether they were on prescribed psychotropic medications were added to the regression analysis. An analysis using the factor of primary diagnosis was not conducted, as the survey allowed clients to indicate more than one presenting area, with varying degrees of severity and duration for each of the concerns. Other than the pre-test CORE scores, none of the client variables regarding their initial psychological functioning was a significant predictor of the adjusted client outcomes (Pre-test CORE score:  $\beta = .47$ ,  $SE = .02$ ,  $F[1, 1974.01] = 431.98$ ,  $p < .001$ ; severity:  $\beta = -.23$ ,  $SE = .19$ ,  $F[1, 1583.33] = 1.43$ ,  $p = .231$ ; chronicity:  $\beta = .09$ ,  $SE = .11$ ,  $F[1, 1732.74] = .55$ ,  $p = .459$ ; medication:  $\beta = .48$ ,  $SE = .32$ ,  $F[1, 1969.14] = 2.30$ ,  $p = .130$ ), although the number of presenting concerns just reached significance ( $\beta = .26$ ,  $SE = .13$ ,  $F[1, 1522.20] = 4.03$ ,  $p = .045$ ). After including client variables about their initial psychological functioning into the MLM, the ICC indicated that 6.60% of the total variance in client outcomes is attributable to the therapist ( $3.055/[3.055+43.184] = 0.066$ ). This is still a statistically significant proportion of variance (Wald  $Z = 3.04$ ,  $p = .002$ ).

In summary, clients' gender and age were not found to be significant explanatory variables in the MLM, thus they were not included in the analysis. Because including the client demographics and a variety of initial psychological functioning variables (severity



ratings of the presenting concerns, chronicity, the number of presenting concerns, concurrent medications) failed to reduce the ICC from the base model (i.e., 5.1%), and previous research has also failed to establish any link between these client variables and client outcomes (e.g., Wampold & Brown, 2005), they were not included in the MLM.

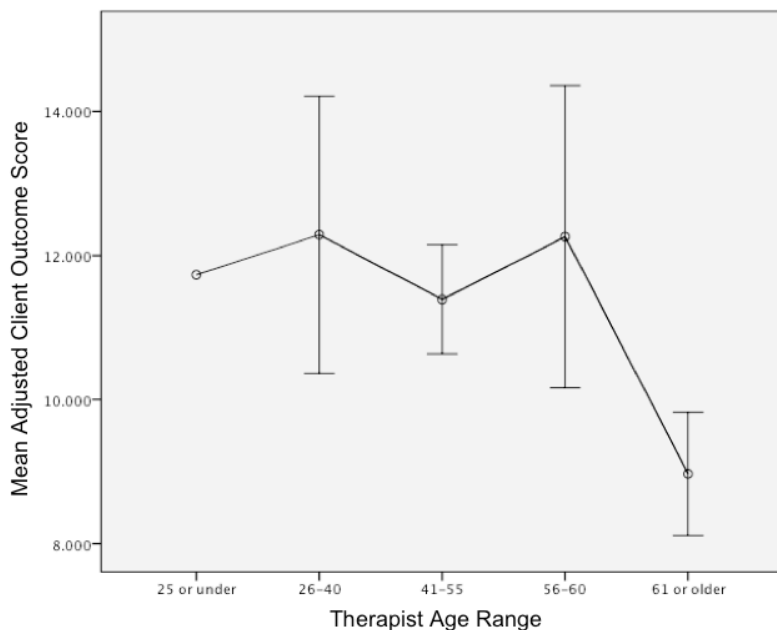
***Adding a Randomly Varying Slope to the Model.*** The strength of the relationship between pre-test and post-test CORE scores (fixed at  $\beta = .4725$  in the previous analysis) was allowed to vary across therapists. This was accomplished by including the pre-post slope as a randomly varying parameter in the model. The slope variance was not significant (Wald  $Z = 1.91$ ,  $p = .056$ ), suggesting that the relationship between the pre-test and post-test client CORE scores does not vary significantly across therapists. The slope parameter was therefore fixed in subsequent models.

### **Step 3: Determining the Contribution of Therapist-Level Variables to the Total Variance in Client Outcomes**

This section aims to address the second research question, “Based on the existing information about the therapists from the Human Givens Institute Practice Research Network (HGIPRN), what are the therapist factors (e.g., gender, age, caseloads) that account for the variability in client outcomes?” In this Study 1, the sample of 69 therapists provided information about their caseload, gender, and age category (26 – 40, 41 – 55, 56 – 60, 61+; see Table 3 for sample sizes of each age category), as well as information about number of sessions per client, and planned ending (yes/no) per client. A distinction can be made between the variables that are attributable to the client, namely, number of sessions and planned endings (note: each client is assigned the number of sessions and whether a planned or unplanned ending of therapy was conducted), and must therefore be aggregated across

clients in order to derive a corresponding therapist variable, and the variables that are intrinsic to the therapist (namely, caseload, gender, and age category). This section examines the variables intrinsic to the therapist; the next section will look at the aggregated therapist variables.

Therapist caseload (grand mean centred), gender, and age category were simultaneously added to the multilevel model (see Table 5, Step 3a). None of the therapist variables was a significant predictor of the adjusted client outcomes (caseload:  $\beta = .0036$ ,  $SE = .0025$ ,  $F[1, 45.95] = 2.12$ ,  $p = .153$ ; gender:  $\beta = .4209$ ,  $SE = .5582$ ,  $F[1, 53.12] = 0.5582$ ,  $p = .454$ ; age category:  $\beta = -.6555$ ,  $SE = .3328$ ,  $F[1, 47.44] = 3.88$ ,  $p = .055$ ). When the adjusted client outcome was plotted against therapist age category, a clear quadratic component emerged (see Figure 2). When the quadratic term (therapist age category squared) was added to the multilevel model, it proved to be a significant predictor of adjusted client outcomes ( $\beta = -.7199$ ,  $SE = .3304$ ,  $F[1, 36.09] = 4.75$ ,  $p = .036$ ). In other words, at this stage of the analysis, there is a likelihood of a non-linear relationship between therapist effectiveness and their age category. Up to the age of 60, therapist effectiveness varies little as a function of age; however, there is a clear indication that therapists over 60 are more effective than their younger counterparts.



Note. Error bars = 95% confidence intervals

Figure 2. Relationship of therapist adjusted client outcomes and therapist age range.

Because therapist caseload and gender were not significant predictors of adjusted client outcomes, and previous research has also failed to establish any link between these therapist variables and client outcomes (Beutler et al., 2004; Wampold & Brown, 2005), they were removed and the multilevel model retested. Once again, therapist age category was a significant predictor of adjusted client outcomes when treated as a quadratic effect ( $\beta = -.7007$ ,  $SE = .3290$ ,  $F[1, 35.77] = 4.54$ ,  $p = .040$ ), but not when treated as a linear effect ( $\beta = 4.7044$ ,  $SE = 2.5112$ ,  $F[1, 36.94] = 3.51$ ,  $p = .069$ ) (see Table 5, Step 3b).

Prior to including therapist age category as linear and quadratic terms in the multilevel model (refer to the previous model that controlled for client initial severity only), the therapist factor accounted for 5.1% of the total variance in adjusted client outcomes. After including therapist age category as linear and quadratic terms (the present model), the therapist factor is reduced to 3.8% of the total variance in adjusted client outcomes. This is still a statistically significant proportion of variance (Wald  $Z = 2.81$ ,  $p = .005$ ).

The base model ICC, when controlling for client initial severity only, was .051 (see Table 5, Step 2). When controlling for client initial severity and therapist age category (the present model), the ICC was 0.038. Using Equation 3, subtracting the present ICC from the previous ICC (base model), and then dividing by the previous ICC ( $= [0.051 - 0.038] / 0.051$ ) gives the proportion of the total variance in client outcomes that can be explained by therapist age category. This proportion is .246 (24.6%). Interpretation of the quadratic age effect is deferred pending the testing of the final model.

#### **Step 4: Determining the Relative Contributions of Additional Client-Level Variables, and the Corresponding Aggregated Therapist-Level Variables, to the Total Variance in Client Outcomes**

Planned endings (yes/no) and number of sessions can be analysed at the client level; they can also be aggregated within therapists and analysed at the therapist level. The aggregation of the binary planned ending variable provides the proportion of planned endings for a particular therapist. Number of sessions and planned endings at both the client and therapist level were simultaneously added to the multilevel model. Number of sessions was grand mean centred at both the client and therapist levels, whereas planned ending was grand mean centred at the therapist level only, due to the binary variable at the client level.

Based on Table 5, Step 4a, planned ending at the client level was a significant predictor of adjusted client outcomes ( $\beta = -6.5405$ ,  $SE = .3001$ ,  $F[1, 2537.41] = 474.94$ ,  $p < .001$ ), whereas planned ending at the therapist level was only approaching significance ( $\beta = -2.1652$ ,  $SE = 1.1655$ ,  $F[1, 39.77] = 3.45$ ,  $p = .071$ ). Number of sessions was not a significant predictor at either the client level ( $\beta = .0553$ ,  $SE = .0348$ ,  $F[1, 2530.90] = 2.53$ ,  $p = .112$ ) or at the therapist level ( $\beta = .1087$ ,  $SE = .1249$ ,  $F[1, 99.29] = 0.76$ ,  $p = .386$ ). With the addition

of the client and corresponding aggregated therapist variables, therapist age category no longer predicted adjusted client outcomes (linear:  $\beta = 1.4215$ ,  $SE = 1.8528$ ,  $F[1, 27.30] = 0.59$ ,  $p = .450$ ; quadratic:  $\beta = -.2131$ ,  $SE = .2393$ ,  $F[1, 26.91] = 0.79$ ,  $p = .381$ ) and was therefore removed and the multilevel model retested.

Nevertheless, returning to the base model, when controlling for client initial severity only, the total variance in client outcomes that is attributable to the therapist, or the ICC was .051 (see Table 5, Step 2). The ICC when controlling for client initial severity, number of sessions and planned endings at both the client and therapist levels (the present model) is 0.014 (see Table 5, Step 4a). Using Equation 3, subtracting the present ICC from the previous ICC (base model), and then dividing by the base model ICC ( $= [0.051 - 0.014] / 0.051$ ) gives the proportion of the total variance in client outcomes that can be explained by therapist age category. This proportion is 0.726 (72.6%). Interpretation of the quadratic age effect is deferred pending the testing of the final model.

Based on Table 5, Step 4b, after removing the therapist age category factor, planned ending at the client level was still a significant predictor of client outcomes ( $\beta = -6.21$ ,  $SE = .26$ ,  $F[1, 3252.54] = 553.77$ ,  $p < .001$ ). Planned ending at the therapist level was only approaching significance ( $\beta = -2.00$ ,  $SE = 1.04$ ,  $F[1, 58.98] = 3.45$ ,  $p = .060$ ), and the other two predictors remained non-significant (number of sessions at the client level:  $\beta = .04$ ,  $SE = .031$ ,  $F[1, 3246.78] = 1.66$ ,  $p = .197$ ; number of sessions at the therapist level:  $\beta = .09$ ,  $SE = .01$ ,  $F[1, 170.54] = .74$ ,  $p = .391$ ).

After including number of sessions and planned endings at both the client and therapist levels in the multilevel model, the therapist factor accounted for 1.8% of the total variance in adjusted client outcomes (see equation 1,  $\rho = 0.6892 / [0.6892 + 36.3819]$ ). This is still a significant proportion of variance (Wald  $Z = 2.35$ ,  $p = .019$ ).

The base model ICC, when controlling for client initial severity only, was 0.051 (see Table 5, Step 2). The ICC when controlling for initial severity, number of sessions, and planned endings at both the client and therapist levels (the present model) is 0.018 (Table 5, Step 4b). Using Equation 3, subtracting the present ICC from the previous ICC (base model), and then dividing by the previous ICC ( $= [0.051 - 0.018] / 0.051$ ) gives the proportion of the total variance in client outcomes that can be explained by the number of sessions and planned endings at both the client and therapist levels. This proportion is 0.64 (64%).

### **Summary of Multilevel Models Table**

A summary of the multilevel models employed in Steps 1 to 4 is included in the following Table 5:

Table 5

Summary of Multilevel Models Used in Steps 1 to 4

	Step 1a: Null Model		Step 1b: Null Model with Treatment Site at Level 3		Step 2: Client-Level Variables (initial severity)		Step 3a: Therapist- Level Variables (caseload, gender, age category)		Step 3b: Therapist- Level Variable (age category in quadratic term)		Step 4a: Additional Client-Level Variables and Corresponding Aggregated Therapist-Level Variables with Therapist Age		Step 4b: Additional Client-Level Variables and Corresponding Aggregated Therapist-Level Variables		
Variable	Est.	SE	Est.	SE	Est.	SE	Est.	SE	Est.	SE	Est.	SE	Est.	SE	
<u>Fixed Effects</u>															
Intercepts	<b>11.37</b> ( <b>&lt;.001</b> )	0.29	<b>11.07</b> ( <b>&lt;.001</b> )	0.62	<b>11.15</b> ( <b>&lt;.001</b> )	0.47	<b>11.63</b> ( <b>&lt;.001</b> )	0.60	<b>20.36</b> ( <b>&lt;.001</b> )	4.36	<b>13.66</b> ( <b>&lt;.001</b> )	2.19	<b>10.72</b> ( <b>&lt;.001</b> )	0.17	
<u>Predictors</u>															
Pre-Test CORE- 10					<b>0.47</b> ( <b>&lt;.001</b> )	0.01	<b>0.48</b> ( <b>&lt;.001</b> )	0.02	<b>0.48</b> ( <b>&lt;.001</b> )	0.02	<b>0.40</b> ( <b>&lt;.001</b> )	0.17	<b>0.39</b> ( <b>&lt;.001</b> )	0.15	
Therapist Gender							-0.42 (.45)	0.56	-	-	-	-	-	-	
Therapist Caseloads							0.004 (.15)	0.004	-	-	-	-	-	-	
Therapist Age Category							-0.66 (.055)	0.33	4.70 (.069)	2.51	1.42 (.450)	1.85	-	-	
Therapist Age Category (Quadratic Term)									<b>-.701</b> ( <b>.036</b> )	0.33	-0.21 (.381)	0.24			
No. of Sessions (Client-Level)											0.055 (.112)	0.03	0.04 (.20)	0.03	
No of Sessions											0.11	0.12	0.09	0.10	

(Therapist-Level)									(.386)		(.39)		
Planned Endings (Client-Level)									<b>-6.54</b> ( <b>&lt;.001</b> )	0.30	<b>-6.21</b> ( <b>&lt;.001</b> )	0.26	
Planned Endings (Therapist-Level)									-2.17 (.071)	1.17	-2.00 (.06)	1.04	
<u>Random Effects</u>													
Within Therapist	<b>56.82</b> ( <b>&lt;.001</b> )		<b>56.14</b> ( <b>&lt;.001</b> )	1.19	<b>45.21</b> ( <b>&lt;.001</b> )	0.95	<b>43.76</b> ( <b>&lt;.001</b> )	1.06	<b>43.79</b> ( <b>&lt;.001</b> )	<b>34.56</b> ( <b>&lt;.001</b> )	0.97	<b>36.38</b> ( <b>&lt;.001</b> )	0.90
Between Therapist	<b>4.16</b> ( <b>&lt;.001</b> )	0.95	<b>3.19</b> ( <b>&lt;.001</b> )	0.83	<b>2.43</b> ( <b>&lt;.001</b> )	0.63	<b>2.03</b> ( <b>.003</b> )	0.69	<b>1.75</b> ( <b>.005</b> )	0.49 (.087)	0.30	<b>0.68</b> ( <b>.019</b> )	0.29
ICC ( $\rho$ )	0.068		0.054		0.051		0.044		0.038	0.0141		0.018	
Reduction in $\rho$ from Base model (Step 2)	-		0.202 <sup>1</sup>		0.065		0.130		0.246	0.73		0.640	
Explained Variance in Level 2	-		0.233		0.240		0.163		0.279	0.798		0.720	
- 2*log likelihood	31603.096		31577.184		30550.460		22871.419		22869.161	16460.286		21229.342	

Note. All continuous predictors were grand mean centered.  $p$  values are in parentheses; figures in bold are significant at  $p < .05$ . Step 2 was used as a base model.

<sup>1</sup>. In Step 1b, the reduction from the base model refers to comparison with the model in step 1a



### Step 5: Rank Ordering of Therapists by Outcomes

Finally, as it is of interest to ascertain therapist performance in terms of client outcomes, in comparison with other practitioners within the Human Givens Institute of Practice Research Network (HGIPRN), Appendix E (Table E4) provides a rank ordering of therapists based on the adjusted client outcomes (i.e., post-test scores adjusted for the grand centred mean of the pre-test scores, derived an analysis of covariance using the pre-test scores as the covariate and the post-test scores as the dependent variable). This will also facilitate further analyses in the next study, which consists of a subset of therapists who responded to the online survey about their development and work practices.

**Comparing therapists' performance.** In order to analyse the differences in therapist performance, therapists were grouped into quartiles based on their outcomes. Even though previous MLM (see Step 2) did not yield any client demographic and initial psychological functioning variables that significantly influenced outcomes, descriptive statistics about these corresponding client variables are indicated in Table 6.

Table 6

*69 Therapists Grouped into Quartiles in terms of Adjusted Client Outcomes, Corresponding to Client Demographics and Initial Psychological Functioning Variables*

Q <sup>a</sup>	N	Gender		Age		Severity (M) <sup>b</sup>		No. of presenting Concerns <sup>c</sup>		Chronicity <sup>d</sup>		On Meds (%)
		M	F	M	SD	M	SD	M	SD	M	SD	
1st	1101	380	720	40.90	12.73	3.04	.90	2.11	1.77	2.67	1.34	39.24
2nd	1087	424	663	40.82	13.17	2.77	1.20	2.07	1.97	2.54	1.31	45.47
3rd	1169	260	909	38.49	12.69	2.98	1.15	1.68	1.50	2.01	1.70	43.95
4th	1223	516	707	40.00	12.69	2.96	1.24	2.00	1.72	2.85	1.48	58.66

*Note.* <sup>a</sup> Quartiles: The 1<sup>st</sup> quartile is designated as the best performing group of therapists, and the 4<sup>th</sup> quartile is the poorest performing group. Sample sizes for each of the four quartiles are 17, 17, 17, 18, respectively.

<sup>b</sup> Severity range = 0 (*nil*), 1 (*causing minimal difficulty*), 2 (*causing mild difficulty*), 3 (*causing moderate difficulty*) to 4 (*causing severe difficulty*)

<sup>c</sup>Number of Presenting Concerns were derived from clients scoring 3 or 4 out of 4 for the severity of each of the presenting problems

<sup>d</sup> Chronicity refers to the longest duration of a given client’s presenting problem, ranging from 0 (nil) , 1 (< 6 months), 2 (6-12 months), 3, (> 12 months), and 4 (recurring/continuous)

Further information about the therapists’ performance based on their quartile groupings are provided in Table 7.

Table 7

*69 Therapists Grouped into Quartiles in terms of Adjusted Client Outcomes*

Q <sup>a</sup>	Pre CORE	SD Pre CORE	Adjusted Client Outcomes <sup>b</sup>	Raw ES Mean <sup>c</sup>	RCI Mean (%) <sup>d</sup>	C.S. Mean (%) <sup>e</sup>	Deterioration (%)	No-Change (%)	M No. of Sessions	Planned Ending Mean (%)	Un-planned Ending Mean (%)	Accepted for Therapy Mean (%)
1st	19.57	7.17	8.75	1.50	76.55	58.86	1.63	21.97	4.52	73.39	12.16	73.75
2nd	20.10	7.37	10.75	1.25	67.63	46.48	2.19	30.17	4.44	60.51	15.72	86.13
3rd	19.02	7.45	12.07	0.99	57.78	34.23	3.37	38.85	5.74	51.68	23.34	75.22
4th	20.05	7.57	14.17	0.76	50.30	25.18	4.68	44.46	6.30	27.68	22.45	64.33

*Note.* <sup>a</sup> Quartiles: The 1<sup>st</sup> quartile is designated as the best performing group of therapists, and the 4<sup>th</sup> quartile is the poorest performing group. Sample sizes for each of the four quartiles are 17, 17, 17, 18, respectively.

<sup>b</sup> Adjusted client outcomes are the Post-CORE scores, adjusted for Pre-CORE scores

<sup>c</sup> Raw E.S. = Raw Effect Size

<sup>d</sup> RCI = reliable change index, i.e., reliable improvement

<sup>e</sup> C.S. = Clinical Significance, i.e., reliable recovery

Based on Table 7 comparing the first, second, third, and fourth quartile of therapists ranked by their outcomes, a one-way ANOVA was calculated in order to determine the relationship between the ranking of therapists grouping (by quartiles), and the following four variables: Mean percentage of clients reaching a reliable change (i.e., more than or equal to 6 points reduction); achieving clinical significance (i.e., meet the RCI criteria, and moving from clinical to non-clinical population; clinical-cutoff at 10 points); deterioration (i.e, more than or equal to 6 points increase), and no-change (i.e., did not meet RCI or deterioration) (see Appendix E, Table E5).

Based on the rank ordering, there were statistically significant differences between the four groups of therapists, in terms of the proportion of clients reaching reliable improvement (RCI) ( $F(3, 65) = 39.971, p <.0005$ ), reliable recovery (Clinical Significance) ( $F(3, 65) =$

71.590,  $p < .0005$ ), deterioration ( $F(3, 65) = 10.764$ ,  $p < .0005$ ), and no-change rates ( $F(3, 65) = 23.765$ ,  $p < .0005$ ). In terms of the percentage of clients with a planned termination of therapy, although the multilevel modeling resulted in only approaching significance, there were significant differences between the quartile groups of therapists ( $F(3, 68) = 10.76$ ,  $p < .0001$ ). The Tukey HSD post-hoc test revealed significant differences between the fourth quartile and the first, second and third quartiles in planned terminations ( $p < .0001$ ;  $p = .002$ ;  $p = .021$ , respectively). Upon further inspection, a simple correlation coefficient revealed a significant relationship between therapists' aggregated client outcome scores (i.e., post-test, adjusted for pre-test) and the percentage of planned termination of treatment,  $r = -.59$ ,  $p < .0001$ . There were no significant differences between the three groups in terms of percentage of clients with percentage of clients accepted for therapy.

Employing the Tukey HSD post-hoc test, significant differences were found between the 1<sup>st</sup> Quartile of therapists and the 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> quartiles for the following: Clients research reliable improvement (RCI) ( $p < .01$ ;  $p < .0005$ ;  $p < .0005$ , respectively); reliable recovery (Clinical Significance) ( $p < .0005$ ;  $p < .0005$ ;  $p < .0005$ , respectively), and rates of no-change ( $p < .05$ ;  $p < .0005$ ;  $p < .0005$ , respectively). For the rates of deterioration, there were significant differences only between the 1<sup>st</sup> and the 4<sup>th</sup> quartile of therapists ( $p = .954$ ;  $p = .387$ ;  $p < .05$ , respectively).

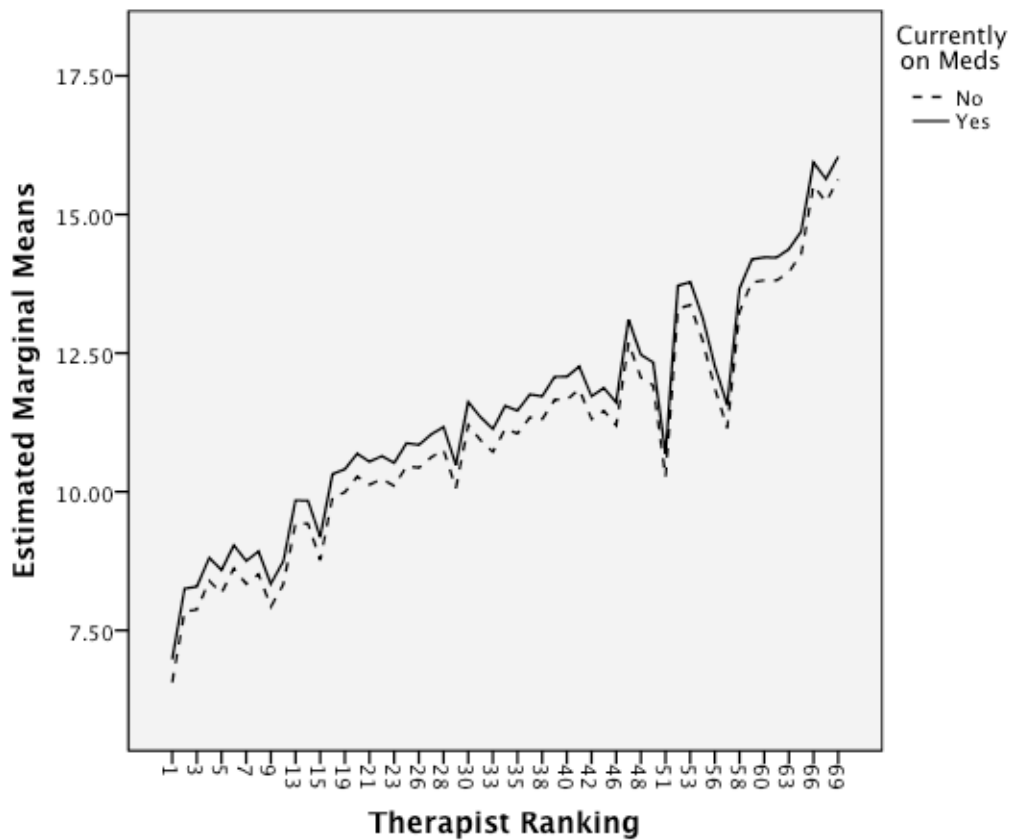
To better illustrate these findings, Appendix E (Figures E1 to E4) displays the scatterplots based on therapists' rankings (i.e., un-grouped) and the proportion of clients reaching reliable improvement (RCI), reliable recovery (Clinical Significance), deterioration, and no-change rates. There were significant linear trends for RCI [ $F(67, 4512) = 194.99$ ,  $p < .0005$ ], clinical significance [ $F(67, 4512) = 295.81$ ,  $p < .0005$ ], deterioration [ $F(67, 4512) = 34.45$ ,  $p < .0005$ ], and no-change rates [ $F(67, 4512) = 146.02$ ,  $p < .0005$ ]. In summary, with the exception of whether clients were on prescribed medication, the composite of these findings

suggest that therapists' higher rankings within the cohort are not due to differences in clients' initial presentation. In addition, the rank ordering portrays a consistent pattern that higher ranking therapists performed better in terms of client outcomes than the lower ranking therapists.

**The Use of Medication.** Although the binary variable of on medication was not a significant predictor in the composite of clients' initial psychological functioning explanatory variables in the MLM (see Step 2), a one-way ANOVA revealed significant difference in the proportion of clients on concurrent medication between the four quartile groups of therapists  $F(3, 68) = 3.55, p = .019, \eta^2 = .14$ . The Tukey HSD post-hoc test revealed significant differences only between the first and fourth quartile ( $p = .018$ ). In other words, therapists in the top quartile saw relatively fewer clients on concurrent medication, as indicated at the start of therapy, compared to therapists in the fourth quartile.

It is noteworthy to recall that the previous MLM analysis in this study indicated concurrent medication was not a significant predictor in outcomes. Nevertheless, it is unclear at this point if the prescription of psychotropic drug influenced the variability in outcomes among therapists, or the top quartile therapist performed better due to a lesser proportion of clients who were medicated, compared with other therapists. In order to examine this, a reanalysis of the data restricting to therapists who have treated a sufficient number of clients who were on concurrent medication was conducted. Thus, therapists with 5 clients or more in their caseloads who were given medication during the course of therapy were included in this analysis. Based on this inclusion criteria, this resulted in a total of 56 therapists and 3557 clients (on medication,  $N = 1626$ ; not on medication,  $N = 1931$ ) with information of whether they were given medication (i.e., binary variable). Based on the post-test score, with the pre-test score as a covariate, those not on medication ( $M = 11.03, SE = .22$ ) seemed to benefit

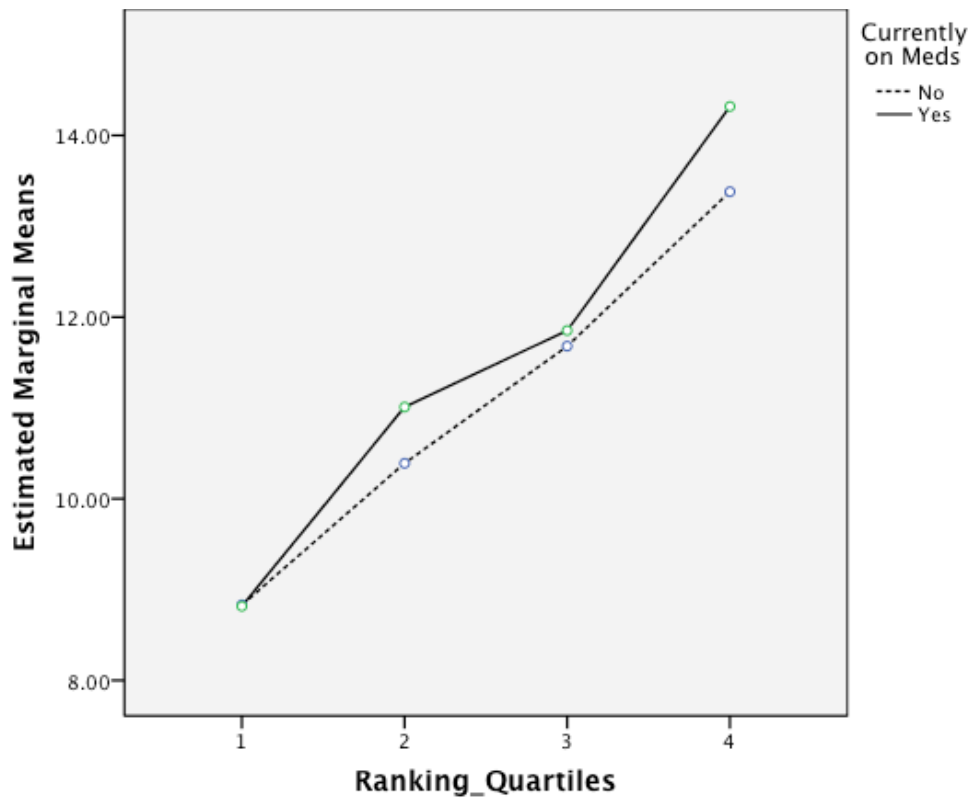
more from therapy than those who received concurrent medication ( $M = 11.44, SE = .22$ ), although this was not a significant finding,  $F(1,3500) = 3.03, p = .082$  (see Figure 3).



Covariates appearing in the model are evaluated at the following values: GrndMC\_PreCore = .0963

Figure 3. 56 therapists ranked by outcomes with clients on prescribed medication and no medication

Upon further visual inspection, when categorised into groups based on their performance, therapists in the top quartile did not vary in their outcomes, compared to therapists in the second, third, and fourth quartile (see Figure 4).



Covariates appearing in the model are evaluated at the following values: GrndMC\_PreCore = .0963

*Figure 4.* Therapists ranked in quartiles based on outcomes with clients on prescribed medication and no medication

To examine the proportion of variance of outcome that is due to therapist for those on medication, the ICC revealed that 3.03% ( $1.622/(1.62+51.98) = 0.0303$ ) of the variation in outcome was due to therapists. In comparison, the proportion of variance of outcome that is due to therapist for those who were not on medication, the ICC revealed that 6.26% ( $2.48/(2.48+37.143) = 0.0626$ ) of the variation in outcome was due to therapists. In other words, the impact of the therapists on the outcome was approximately two times greater with clients not on medication, compared with those who were on concurrent medication.

## Chapter 9: Study I Discussion

### General

The overarching purpose of this study was to examine a variety of therapist predictors that contribute to the variability in outcomes between therapists. The initial focus of the research was to examine the proportion of variability in client outcomes that was attributable to therapists. Consistent with past research on the investigation of therapist effects (e.g., Kim et al., 2006; Lutz et al., 2007; Wampold & Brown, 2005), using a three-level multilevel modeling (MLM) analysis (Level 1: clients, Level 2: therapists; Level 3: treatment sites), the intraclass-correlation coefficient (ICC) of the 69 therapists within the Human Givens Institute Practice Research Network (HGIPRN) revealed that, after adjusting for initial severity (i.e., pre-test scores) and accounting for treatment sites, 5.1% of the variance in outcome was due to the therapist. As clients seen by the therapists in this cohort were not randomly assigned, it is expected that much of the variability in outcomes would be due to the initial severity of the clients. It is therefore important to statistically control for pre-treatment differences. Based on the reduction in between-therapist variance, about 24% of the therapist variability was due to the initial severity of the client's functioning, which is comparable to past research (e.g., Wampold & Brown, 2005). Other client demographics (age & gender) and initial psychological functioning variables (severity ratings of the presenting concerns, chronicity, the number of presenting concerns, and whether they were on prescribed psychotropic medications) failed to reduce the variance due to therapist (i.e., ICC), and was thus not included in the MLM.

The findings on therapist effects in this study is consistent with Wampold and Brown's (2005) estimates, as well as and Baldwin & Imel's (2013) meta-analysis on therapist effects (i.e., 5-7%), based on a naturalistic study with practitioners working in a managed care setting. Similarly, using an identical outcome measure, CORE-OM, Saxon and Barkham

(2012) estimated a therapist effect of 6.6% in a practice-based data set in U.K.'s National Health Service (NHS) primary care counseling and psychological therapy services. This figure is close to our estimate of 5.1%, even though Saxon and Barkham's (2012) sample was restricted to cases with planned endings of therapy.

Even though the current study's estimate of therapist effects of 5.1% is smaller than previous findings in clinical trials (about 8-9%) (Crits-Christoph et al., 1991; Kim et al., 2006), Wampold and Brown (2005) argued that the higher estimates of therapist variability in clinical trials, compared to naturalistic studies, are most likely due to the homogeneity of patients, in terms of both levels of distress and types of problems. As patients in clinical trials are selected based on strict inclusion-exclusion criteria, patient variability is thus reduced. This has the effect of reducing the denominator of the intraclass correlation coefficient (ICC), which in turn increases the between therapist variability (see Equation 1, p.74). On the contrary, Baldwin and Imel (2013) proposed that efficacy studies yielded lower estimates of therapist variability (about 3%) than effectiveness studies (about 7%). They indicated that this is likely due to the influence of a structured environment provided to therapists involved in clinical trials, along with rigorous training and clinical supervision.

Historically, as noted in the literature review, questions related to whether therapists should be treated as a fixed or random factor have been raised (Crits-Christoph & Gallop, 2006; Elkin, Falconnier, Martinovich, & Mahoney, 2006a; Elkin et al., 2006b; Kim et al., 2006). Taking this debate into consideration, a decision was made for therapists to be treated as a random factor in this study. If therapists were treated as a fixed effect, the results would be restricted to only therapists who participated in this study. By treating therapists as a random effect, statistical inference based on the set of treatment providers in this study is more generalisable to a population of treatment providers similar to those in this study. This is also consistent with previous recommendations (Serlin, Wampold, & Levin, 2003).



**Treatment sites.** To our knowledge, this is the first study to take into consideration the treatment site as a factor in the multilevel modeling of therapist effects within a practice research network. As therapists are nested within various practice settings, with a handful of practitioners working in more than one organisation at a given time, a re-categorisation of the organisations into six higher order factors (private practice, voluntary sector, primary care (NHS), insurance, secondary care (NHS), workplace counselling, and occupational health) was conducted, treating sites as a random effect in the MLM analysis. Treatment site was thus used as a Level 3 random effect throughout the analyses in this study. Treatment sites accounted for about 20% of the total variance in client outcomes. Further analyses revealed that out of the six treatment sites, therapists working in the Occupational Health and Counselling treatment sites achieved the best outcomes. It is important to note that although therapists are nested within treatment sites, therapists are not independent of the treatment site effects, and it is therefore possible that the best therapists might be clustered in such a work setting. Moreover, there were some treatment sites with smaller number of therapists working in that setting than others. Hence, treatment site effects might be confounded by the therapist effects. Furthermore, about 23% of the total variability in treatment sites was explained by variability at level 2 (i.e., therapists) of the multilevel modeling. In other words, the contribution of the therapist's role is still significant. Once again, in order to avoid misspecification, subsequent analyses retained the three-level hierarchy (i.e., therapists nested within treatment sites, clients nested within therapists).

**Treatment modality and Treatment Providers.** Although practitioners in this practice research network subscribe to a primary theoretical orientation (i.e., Human Givens approach), differences in their effectiveness levels still exist. Several researchers have echoed the findings regarding the relative efficacy of treatment models in a variety of contexts (i.e., clinical trials, practice-based settings) and client concerns, that is when the client-therapist

dyad believes in the rational and are engaged in the process of a particular orientation to working in therapy, all bona fide treatment approaches work equally well (Benish et al., 2008; Imel, Wampold et al., 2008; Lambert & Ogles, 2004; Miller et al., 2008; Sparks et al., 2008; Wampold, Minami, Baskin, & Tierney, 2002). Yet, as exemplified in this study, therapist outcomes do vary, in spite of similarities of treatment modality.

### **Therapist Predictors**

In an attempt to examine the available therapist predictors that account for the between-therapist variability, the findings suggest that therapist caseload and gender did not account for any significant proportion of the variance in the multilevel modeling. Even though the age of the therapist was a significant predictor when it was treated as a quadratic effect in the early stages of model development, suggesting that therapists between the ages of 61- older were the most effective age group, it was no longer significant in the final two models of the analyses.

Therapist average number of planned endings (client and therapist levels) accounted for 64% of the variance in adjusted client outcomes. The log likelihood suggests a possibility of a better model fit for Step 4a than Step 4b (see Table 5) (i.e., smaller figure indicates a better fit). Only planned endings at the client-level was a significant predictor, although planned endings at the therapist-level was approaching significance in the multilevel modeling. Nevertheless, when therapists were grouped into quartiles based on their performance, there were significant differences in terms of the proportion of planned endings between the groups. Simply stated, therapists in the top quartile are more than 2.5 times likely to have a planned ending than therapists in the bottom quartile. There was also a moderate correlation between therapists' adjusted outcomes and the proportion of planned endings. The collective

results tentatively suggest that the planned termination of therapy sessions, both at the client and therapist level, impact outcomes.

Taking these results into consideration, it is possible that the more effective practitioners are more likely to experience a collaborative planned ending of the therapy sessions with their clients, who in turn are also significant contributors to the therapy dyad. However, as this is beyond the scope of this thesis, further analyses needs to be conducted to dis-entangle the role of client and therapist variability in the number of sessions attended and planned endings, its interactional effects, and how it influences client outcomes (Raudenbush & Bryk, 2002; Snijders & Bosker, 1999).

### **Therapist Rankings**

In order to identify therapists' effectiveness within the HGIPRN based on their adjusted scores (i.e., post-test, adjusted for pre-test and treatment sites), a rank ordering of therapists (similar to Okiishi et al., 2006; Okiishi et al., 2003) was conducted, based on their overall performance.

For the purpose of illustration, therapists were categorised into quartiles, based on their adjusted scores. Significant differences were found between the therapists in the top quartile and therapists in the second, third and fourth quartile for the following: Proportion of clients reaching reliable improvement, reliable recovery, deterioration, and no-change rates. In other words, clients seen by therapists in the top quartile are more likely to improve, and less likely to stay the same, compared to therapists in the average and below average therapists.

For example, in terms of proportion of clients reaching reliable improvement, therapists in the top quartile were about 1.5 times higher than the bottom quartile. In terms of rates of clients reaching clinical recovery, the therapists in the top quartile were two times more likely to "clinically recover", compared to the therapists in the bottom quartile. Conversely, bottom quartile therapists were twice as likely to achieve "no-change" with their clients, compared to the top quartile therapists. For the rates of deterioration, there were significant differences

only between the top and bottom quartile therapists, indicating that the bottom quartile therapists are nearly 3 times more likely to achieve deterioration with their clients, compared to the top quartile therapists.

Contrary to Okiishi and colleagues' findings (Okiishi et al., 2006; Okiishi et al., 2003) that the more effective therapists were also more efficient with helping their clients, there were no significant differences between the four groups of therapists in our sample, in terms of the number of sessions attended by the clients.

With regards to the use of psychotropic medications, Wampold and Brown's (2005) findings suggested that patients of more effective therapists benefited from the combination of psycho-pharmacological treatments, compared with patients seen by less effective therapists. This is in contrast to the findings from Study I in this thesis. Although therapists in the top quartile saw relatively fewer clients on medication, compared to therapists in the fourth quartile, there was no significant difference between client outcomes for those who were on concurrent medication or not. Given the difference of those on concurrent medication or not, it might be hypothesised that the less effective therapists indeed saw more difficult clients compared with the more effective therapists. However, there were no significant difference in clients' initial psychological functioning, in terms of the initial pre-test scores, severity of the problems, number of presenting concerns, and the chronicity (see Table 6). Going further, therapist variability on outcomes was found to be approximately two times greater with clients not on concurrent medication than those who were no on medication (i.e., only psychotherapy), whereas Wampold and Brown found greater variability on outcomes for patients on concurrent medication than those who were receiving psychotherapy only. Nonetheless, there was still a significant proportion of the variance due to therapists even for those clients who were on concurrent medication during therapy.

Wampold and Brown (2005) cautioned about the generalisability of their findings, given the limited number of therapists ( $N = 15$ ) and clients (on medication,  $N = 586$ ; not on medication,  $N = 1083$ ; at least three clients on concurrent medication and three clients with no medication for each therapist's caseload) in their analysis. Whereas this thesis employed a larger sample of 56 therapists and 3557 clients (on medication,  $N = 1626$ ; not on medication,  $N = 1931$ ; based on the inclusion criteria, at least five clients on concurrent medication and five clients with no medication for each therapist's caseload).

In summary, the composite results obtained in Study I reflects a consistent picture regarding the rank ordering of therapist based on their overall effectiveness. The more effective therapists are more likely to obtain a greater magnitude of improvement and less negative outcomes with their clients, compared to their less effective counterparts. There were no significant difference between client outcomes for those who were on concurrent medication or psychotherapy without medication.

### **Limitations**

As documented elsewhere, similar to this study, there are several limitations inherent in naturalistic-based setting studies within a practice research network (PRN) (e.g., Barkham et al., 2010). First, due to the nature of a naturalistic study design, experimental manipulations were not possible. In addition, clients were not randomly assigned to their therapists. In addressing this concern, client's initial severity (i.e., pre-test scores obtained at the start of therapy) was used to adjust for client variability. It is also worthy to mention that there is a likelihood of non-replicability of the variance explained ( $R^2$ ) in the reduction of ICCs. Some researchers noted that it is difficult to interpret when the  $R^2$  increases (e.g., Heck et al., 2010), as evidenced in this thesis after including client initial psychological functioning variables into the analysis. Another limitation is a possible selection bias of client sampling.

In addressing this concern, therapists within this PRN were required to input all of their client data into an online outcome management program (CORE Net), and only cases with at least a pre- and post outcome measure were included in this analysis. Also, therapists with less than 10 cases were excluded in order to capture a reliable aggregated result within each therapist. Even though therapist was treated as a random factor in the model, thus allowing the results to be generalisable (Kim et al., 2006; Wampold & Bolt, 2006), the majority of the clients and therapists were predominantly white Europeans. It is unclear if this may be generalisable to the other ethnicities for the client and therapist populations.

Although practitioners in this PRN endorse a primary orientation of the Human Givens (Griffin & Tyrrell, 2004) approach to psychotherapy, another limitation to this study is a lack of verification to the adherence of this theoretical orientation. Nevertheless, typical of most therapists in clinical practice (Orlinsky & Ronnestad, 2005), as it is seen in Study II, it is fair to assume therapists in this study are likely to integrate other forms of approaches to their work as they see fit for a given client. The inclusion of ongoing and completed cases might also reduce the impact of therapist variability, but unlike previous studies that examined only cases with planned endings (Saxon & Barkham, 2012), this study included all cases with planned or unplanned ending to treatment. This is likely to more accurately reflect the nature of naturalistic practice settings.

Even though therapist performance in this study was judged based on individual effectiveness across clients, it is crucial to note that each therapist's overall effectiveness is framed within the context of their specific work practice. In other words, the results only suggest how effective a given therapist is in his or her work setting, coupled with its constraints, and not how effective a given therapist is in general. It is recommended that therapist's performance be evaluated within the context of his/her practice setting, such as the client population that they are working with, the impact of the organisational culture and its

constrains, and the professional support that they receive. Another possible confound to this study is that three of the treatment sites had only two or three therapists practicing in the given setting. Although not the focus of this thesis, future research or studies investigating the differences in work settings can ensure more consistent number of therapists practicing in each treatment site, along with adequate number of clients seen within each therapist caseload. In addition, some of the therapists work in more than one of the seven treatment sites. In addressing this concern, therapists who worked in more than one work setting were allocated to the site in which they saw the most clients. Nonetheless, the 69 therapists have a majority of their clients seen in one of the particular treatment sites.

Another limitation to this study is the lack of primary diagnostic information in the dataset about the client. It is worth considering the possibility that specific diagnosis can confound or contribute the differences in therapist outcomes, although Wampold & Brown (2005) has shown that the clients's age, gender, and diagnosis did not account for differences among therapists. Similarly, in this thesis, client's demographics (age & gender) as well as variables regarding their initial psychological functioning (severity ratings of the presenting concerns, chronicity, the number of presenting concerns, and whether they are on prescribed psychotropic medications) did not explain a significant proportion of variability in outcomes among therapists. The analysis on the use of concurrent medication was also limited by a small sample size of clients (i.e., five clients on concurrent medication and five clients not on medication) within each treating therapist caseload, even though it was more than Wampold and Brown's (2005) investigation (i.e., three clients on concurrent medication and three clients not on medication). Future studies can ensure a more thorough process of collecting such data, as 1023 out of 4580 clients did not indicate whether psychotropic medication was being prescribed.

There was also a lack of symptom specific measures to match clients' disorders, as only an outcome measure assessing global functioning was used. It has, however, been previously noted in clinical trials that it is unlikely that therapist variability is related to the specificity of the measure (Kim et al., 2006). Finally, this study is limited in therapist information, other than their gender, age range, and caseloads. In order to examine the effects of other therapist characteristics, qualities, and work practices that might account for the differences between therapists, more information about their work practices is required to ascertain its impact on their work performance. As it will be seen in the next chapter on Study II, 17 of the 69 therapists in the HGIPRN responded to a follow-up online survey, thus providing the avenue to examine specific therapist variables that might account for the variability between therapists conducted in Study II.

## **Conclusion**

Rarely do practitioners from different organisations and treatment settings collaborate in a practice research network (PRN) to systematically gather outcome data of their clients. In complimenting the evidence-based practice paradigm, such practice-based evidence initiatives provide the foundations for individuals and organisations to evaluate and improve service deliveries (Andrews et al., 2011; Barkham et al., 2001; Barkham, Mellor-Clark, Connell, & Cahill, 2006; Borkovec, Echemendia, Ragusea, & Ruiz, 2001; Evans, Connell, Barkham, Marshall, & Mellor-Clark, 2003; McMillen et al., 2009). It is recommended that future research in naturalistic settings continue to adopt similar outcome measures, and use multilevel models for examining variables at different levels of the hierarchy, as well as to disentangle within- and between-therapist correlations, so as to highlight the impact of therapists and clients to the process of change in psychotherapy. Future studies can consider



combining the use of symptom specific measures along with a general outcome scale (e.g., OQ, CORE, ORS), examine the rates of change (i.e., efficiency) from session-to-session between therapists, alongside with effectiveness investigations (i.e., pre & post-change), as well as gather more therapist demographic and work practices information. In addressing the latter issue, Study II further explores the impact of therapist work practices and other related qualities upon performance.

In summary, based on the findings in Study I, despite similarities in the primary theoretical orientation between the 69 therapists within the Human Givens Institute Practice Research Network (HGIPRN), therapists' effectiveness significantly varied. After adjusting for the client initial severity and treatment site, therapist effects was about 5.1%. The number of sessions (client and therapist level) and number of planned endings (client and therapist level) accounted for 64% of the total variance in client outcomes, after adjusting for initial severity of psychological functioning and treatment site. Therapist caseloads and gender were not significant predictors of client outcomes. Therapist age was no longer significant when added to the multi-predictor model.

Based on the findings in Study I, further investigation needs to be made to account for therapist practice activities that account for the differences in outcomes among therapists. As most practitioners are neither able to control for the variability of clients that they see in their work setting nor their characterological fixed traits, it would be of interest to investigate the general factors that are within the therapists' locus of control, such as their professional development activities and work practices. Since a significant proportion of the variance in client outcomes is due to the therapist, as replicated in this study, and recent studies suggest significant variability of the therapist's alliance formation skills (Anderson et al., 2009; Imel et al., 2013), a different theoretical paradigm is needed to investigate the acquisition and maintenance of expertise in psychotherapy. As the primary purpose of Study I was to

establish a baseline to determine the relative effectiveness rating and the variability in outcome among therapists, Study II attempts to conduct a preliminary exploration of this specific area of enquiry.

## Chapter 10: Study II Methodology

### Introduction

Following Study I, further analyses of a sub-sample of 17 therapists were conducted regarding therapist predictors, such as their professional development and work practices.

### Participants

**Therapists.** 17 of the 69 therapists who participated in Study I responded to an online-questionnaire about their professional development and work practices. The 69 therapists had been ranked on the basis of their client outcomes (adjusted for initial severity). The subsample of 17 therapists were ranked 1, 3, 5, 7, 8, 13, 14, 15, 22, 27, 29, 30, 31, 36, 43, 44, and 54. Eight (47%) of the 17 therapists were in the top quartile of the 69-therapist sample, 5 (29.4%) were in the second quartile, three (17.6%) were in the third quartile, and only one (5.9%) was from the bottom quartile. Further demographic details of the therapist sample are provided in Table 8. Briefly, 52.9% of the therapists were male, the majority (64.7%) were between the ages of 41 and 55, 58.8% were working in a private setting, and 52.9% were practicing as a professional psychotherapist. The average years of experience for the 17 therapists was 8.45 ( $SD = 5.24$ ).

Table 8

*Description of the Therapist Sample in Study II (N = 17)*

Description	N	%	
Gender:	Males	9	52.9
	Females	8	47.1
Missing		0	0
Total		17	100
Age Range:	25 or under	0	0
	26-40	0	0
	41-55	11	64.7
	56-60	1	5.9
	61 or older	5	29.4
	Total	17	100
Organisation:	Private	10	58.8
	Voluntary Sector	2	11.8

Missing Total	Primary Care (NHS)	1	5.9
	Insurance Based	4	23.5
	Secondary Care (NHS)	0	0
	Occupational Health & Counselling	0	0
		0	
		17	100
Profession	Counsellor	3	17.6
	Psychotherapist	9	52.9
	Counselling Psychologist	2	11.8
	Clinical Psychologist	1	5.9
	Others <sup>1</sup>	2	11.8
Missing Total		0	
		17	100
Ranking by Quartiles from the Main Sample in Study I:	First Quartile	8	47.1
	Second Quartile	5	29.4
	Third Quartile	3	17.6
	Fourth Quartile	1	5.9

*Note.* <sup>1</sup> Refers to Educationalist, and Human Givens Therapists.

The 17 therapists were distributed across four treatment sites: Private sector ( $n = 10$ ), voluntary sector ( $n = 2$ ), primary care ( $n = 1$ ), and insurance ( $n = 4$ ). There were no significant differences in adjusted client outcomes across the treatment sites ( $F[3, 12] = .49, p = .695$ ). The mean therapist caseload was 94.24 ( $SD = 97.40$ ;  $Mdn = 46$ ;  $Min = 10$ ;  $Max = 335$ ).

**Clients.** Based on the same inclusion criteria as Study I, the 17 therapists saw a total of 1632 clients who attended more than one session between October 1<sup>st</sup> 2007 and December 13<sup>th</sup> 2011. A total of 1517 (92.95% of 1632) clients were formally assessed as being accepted for therapy at the end of the first sessions. The mean age for the 1632 clients was 40.19 (Median: 40.00;  $SD$ : 13.20); 985 (60.4%) were female and 646 (39.6%) were male. Similar to Study I, the majority of the clients (83.5%) reported their ethnicity as White. Gender was not specified for one of the clients. Further demographic details of the client sample are provided in Appendix F (Tables F1 to F3).

Consistent with most mental health service settings, the majority of clients seen by therapists in this practice research network (PRN) presented with mild to severe concerns

relating to anxiety and stress ( $N = 1357$ ; 57.41%), followed by depression ( $N = 1234$ ; 49.69%). A total of 1434 out of 1632 clients provided information about the use of medication: 577 (40.24%) were prescribed psychiatric medications, 504 (85.7%) were on antidepressants, 89 (15.1%) were on anxiolytics, and 22 (3.7%) were on antipsychotics.

**Measures.** In addition to the Clinical Outcome in Routine Evaluation (CORE) measure (Barkham et al., 2001; Connell et al., 2007; Evans, Mellor-Clark, Margison, & Barkham, 2000) used in Study I, Study II employed additional measures in order to elicit more information about therapist work practices and their views on professional development. These additional measures are described below.

*The Psychotherapists' Work Involvement Scale and the Psychotherapists' Professional Development Scale.* These two short-forms are derived from the Development of Psychotherapist Common Core Questionnaire (DPCCQ) (Orlinsky et al., 1999; Orlinsky & Ronnestad, 2005), which is a self-report 392-item survey package that covers diverse aspects of the therapist's background, functioning, and experiences; such as professional training, experience, overall development as a therapist, personal therapy, theoretical orientation, current work as therapist, and personal characteristics. Due to the length of the questionnaire and the lack of relevance of some sections to this research, only the two short-form scales, the Psychotherapists' Work Involvement Scale and the Psychotherapists' Professional Development Scale (Orlinsky & Ronnestad, 2005), were employed for this study (see Appendix C). Both scales were based on questions identified through previous factor analyses. The Psychotherapists' Work Involvement Scale is based on the configuration of work experience called Healing Involvement (HI) and Stressful Involvement (SI). These two second-order factors emerged from first-order dimensions. Cronbach's alpha across the dimensions ranged from .66 to .74. In terms of the work involvement scales, it has demonstrated good convergent and discriminant validity with external correlates, such as the depth and breadth of professional experience, years of experience, theoretical breadth, level of

work support, previous experience of personal therapy, and clinical supervision (see Orlinsky and Ronnestad, 2005). The Psychotherapists' Professional Development Scales consists of four main factors: 1. Overall Career Development; 2. Currently Experiencing Growth; 3. Currently Experiencing Depletion; and 4. Motivation to Develop. (Orlinsky et al., 1999). Cronbach's alpha across the lower-order factors ranged from .86 to .69. Orlinsky and Ronnestad provided descriptive statistics of these two scales for approximately 5000 psychotherapists of various experience levels.

*The Retrospective Protocol of Psychotherapists' Engagement in Deliberate Practice.*

As there has not been any previous exploration into the deliberate practices of psychotherapists, a preliminary effort was made to construct a questionnaire that would tap into these domains. A thorough review of the literature on methodologies for studying expertise and expert performance was conducted. Item generation was guided by the working definition of deliberate practice in the study of expertise (Ericsson, 1996; Ericsson, 2004; Ericsson, 2006a; Ericsson et al., 1993). To assess content validity, the items were discussed at length with two leading experts in the area, namely Scott D. Miller and K. Anders Ericsson.

A trial administration of the retrospective protocol was conducted with four associates from the International Center for Clinical Excellence (ICCE) ([www.centerforclinicalexcellence.com](http://www.centerforclinicalexcellence.com)), and another practitioner who has used outcome and alliance measures in routine practice. These therapists were based in various countries, namely, United Kingdom, New Zealand, Western Australia, and Singapore. The aim of this trial administration was to test the feasibility and face validity of the items, to identify unclear or ambiguous items, and to eliminate redundant items. The therapists were practicing psychotherapists from various backgrounds and work settings (e.g., private practice, non-government bodies, government-related hospital setting). They were all familiar with and

routinely collected outcome and alliance data in their clinical practice. They were invited to participate on a voluntary basis, and were not the same therapists who participated in the main study. Since a majority of the participants were overseas, feedback was obtained via individual Skype calls. Based on their collective feedback, items were further refined in order to establish coherent constructs. Most of the participants' feedback was related to re-wording of ambiguous and unclear items, and removing unimportant items.

After the revisions were made, the questionnaire was again given to a leading expert in the study of deliberate practice, K. Anders Ericsson, for a reevaluation. Previous research eliciting similar self-report practice estimates from experts in sports and music have reported test-retest reliabilities at or above .80 (Bengtsson et al., 2005; Cote et al., 2005). The design of this structured interview was modeled closely on the assessment methods employed by Ericsson and colleagues' study of expertise and expert performance in various domains (Cote et al., 2005; Ericsson et al., 1993). Ultimately, this retrospective protocol yielded high face validity.

The sections within the Retrospective Protocol of Psychotherapists' Engagement in Deliberate Practice are described below (see Appendix D for the complete questionnaire):

- A. Professional Identity: This is an adapted version of the introductory section of the DPCCQ (Orlinsky et al., 1999; Orlinsky & Ronnestad, 2005). This section allows therapists to provide their professional background information (e.g., qualification, years of clinical experience, theoretical orientation).
- B. Self-Assessment: This section focuses on the therapist's self-assessment of his/her professional abilities (effectiveness and working alliance) as a therapist. The questions in this section were adapted from a previously unpublished study (Walfish et al., 2010), examining the self-assessment bias of mental health professionals. This has recently been published (Walfish et al., 2012).
- C. Mindset: As Dweck's questionnaire on Mindset focused on general principles of implicit theories of fixed and incremental mindsets, a scale specific to this profession

has already been developed. It is called the Therapist Mindset Questionnaire (TMQ), and has five sub-scales (Beliefs About Ability, Challenges and Obstacles, Effort, Criticism, and Success of Others) consisting of 42 items. The well-validated 8-item Theory of Intelligence (TOI) (Dweck et al., 1995) scale measuring the participants' beliefs about their ability, was administered to test the construct validity of the therapy-related Mindset questionnaire. The term "intelligence" was changed in order to accommodate context specific to abilities in therapy. The Cronbach's alpha for the TOI ranged from .94 to .98. The test-retest reliability of the measures over a 2-week interval was .80 (Dweck et al., 1995).

- D. Development: This section represents a self-review of the therapist's progress and growth from the first year of practice to current practice. Contributing factors toward professional development are also explored.
- E. List of Domain Related Activities: This is defined in terms of 25 activities related to improving the skills and competency of a therapist. Participants were asked to rate frequency of engaging in specific activities in the last typical work month, the confidence rating in the frequency rating (0-10), the relevance rating of the activity in relations to improving skills (0-10), and the cognitive effort that was required of them while engaging in the each of the given activities (0-10). In addition, in order to capture the amount of time therapists spent in solitary practice, participants were asked the following question: "*How many hours per week (on average) do you spend alone seriously engaging in activities related to improving your therapy skills in the current year?*"
- F. The Use of Feedback: Feedback is defined as the opinions, preferences and comments provided by the client regarding the process and progress of treatment. Similar to the previous two sections, participants were asked to rate frequency of engaging in specific five feedback related activities in the last typical work week, the confidence rating in the frequency rating (0-10), the relevance ratings of the activities to improving skills (0-10), and the cognitive effort that was required of them while engaging in each of the given activities (0-10).

This protocol takes approximately 1 hr 15 mins to 1hr 30 mins to complete.



## Data Analyses

In Study II, 17 of the 69 HGIPRN therapists volunteered to complete the battery of on-line questionnaires relating to their professional development and their work practices. These included the Psychotherapists' Work Involvement Scales and the Psychotherapists' Professional Development Scales (Orlinsky & Ronnestad, 2005), and the Retrospective Protocol of Psychotherapists' Engagement in Deliberate Practice. Since the proportion of variance in client outcome that is due to therapists (i.e., the therapist effect) has already been established in the larger cohort of Study I, this was not replicated in Study II. The primary aim of Study II was to use a series of generalised linear mixed models (GLMMs) to examine the relationships between adjusted client outcome and each of several conceptually distinct groups of therapist explanatory variables, after controlling for intra-therapist and intra-site dependencies in the data. The GLMM is an attempt to overcome the limitations of the classical least squares regression procedures (McCulloch, Searle, & Neuhaus, 2008). The GLMM is "generalised" in the sense that it can handle several types of non-normal outcome variables; it is "mixed" in the sense that it can accommodate a mixture of fixed and random effects. In this study, there were three nominal random effects corresponding to client, therapist, and site. By analysing client, therapist, and site as random effects, GLMM is able to control for the data dependencies produced by the nesting of client within therapist, and therapist within site. The fixed effects were the initial (pre-test) CORE score and the therapist variables described below. The final (post-test) CORE score provided the outcome variable. The GLMMs were implemented through SPSS's (Version 19) Generalised Linear Mixed Models procedure. Unlike the SPSS MIXED procedure, which was used in Study I, GLMM was able to accommodate the positively skewed outcome variable that emerged in Study II. Following the GLMM analyses, descriptive statistics were computed using standard statistical parametric procedures (ANOVA, one-sample t-tests, correlation) in order to further

investigate the relationships between therapist explanatory variables and client outcomes. Descriptive statistics of all the main outcome and therapist variables are listed in Appendices F and G.

Since this was a preliminary investigation, there were considerably more therapist variables ( $k = 88$ ) than therapists ( $N = 17$ ), which meant that the therapist variables could not all be entered into the same regression model. The therapist variables were therefore divided into six conceptually distinct groups: Therapist characteristics, deliberate practice, use of feedback, work involvement and professional development, self-assessment, and mindset. The conceptual groupings, and the number of predictors within each group, are listed in Table 9:

Table 9

*Conceptual Groupings of Therapist Predictors*

Conceptual Groupings	Predictors	Number of Predictors
Therapist Characteristics	Therapist Demographics	5
	Integration	1
	Caseloads	1
Deliberate Practice	Amount of time spent in deliberate practice alone	1
	Amount of time spent on each of 10 solitary activities	10
	Amount of time spent on nine non-solitary therapy related activities	9
	Amount of time spent on each of five non-therapy related activities	5
Use of Feedback	Number of times each of five types of feedback elicited from clients	5
	Relevance of each type of feedback to improving outcomes	5
	Cognitive effort spent on each type of feedback activity	5
Work Involvement	Psychotherapists' Work Involvement Scales	11

and Professional Development	Psychotherapists' Professional Development Scales	4
Self-Assessments	First year effectiveness ratings	7
	Current year effectiveness ratings	7
Mindset	Dweck Mindset Questionnaire	2
	Therapist Mindset Questionnaire	10

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Before conducting the primary analyses, the relationship between each of the 88 predictors and the adjusted client outcome was examined with a separate generalised linear mixed model (GLMM). The aim of these analyses was to identify predictors that were not related to the adjusted client outcome. These predictors were dropped from all subsequent analyses in order to avoid the suppressor effects (MacKinnon, Krull, & Lockwood, 2000) that had plagued preliminary analyses. Within each of the six conceptual groups, the relationships between the remaining therapist variables and adjusted client outcomes were analysed with one or more GLMMs. Bonferroni adjustments were applied to each test alpha levels within each of the six analytical groups in accordance with the number of GLMMs that were tested within a given group.

## Procedure

**Recruitment.** Informed consent was obtained for all participating therapists. To encourage participation and reduce attrition during survey completion (Gorritz & Wolff 2007), each participant had the opportunity to win one of ten \$50 Amazon vouchers upon completion of the online survey.

As a follow-up to Study I, in Study II informed consent was implied through the completion and submission of the online questionnaire, when they select the column “I hereby consent to participate in this study”. The Information Sheet (see Appendix A) was

also provided in the introduction section of the online survey. *“To ensure confidentiality, each respondent will not be required to put his or her names on any questionnaire. Instead, they will be given a three-digit code number.”* At any point of the online survey, participants had the right to withdraw from the study by either not clicking the submit button at the end of the questionnaire, or by closing the web-browser, upon which any previously answered questions would not be retrieved. Due to the length of the protocol, participants were able to save their responses and continue at a later stage, so as to reduce fatigue and biased responses. All data and documents are kept in a secured, password protected environment.

## Chapter 11: Study II Results

### Assumption testing

**Independence of observations.** There is the potential for intra-therapist and intra-site dependencies in the client data. By analysing client outcomes within the context of a hierarchical data structure in which clients are nested within therapists, and therapists are nested within sites, the GLMM analysis is able to model these dependencies.

**Normality.** Within-therapist histograms of outcome variable suggested a positive skew. The skew was more evident after collapsing across therapists. The fixed effects were therefore linked to the outcome via a log transformation.

**Homogeneity of variance.** Levene's test for the homogeneity of between-therapist variability for the post-test client outcome was violated ( $F[16,1615] = 4.96, p < .001$ ). The parameter estimates of the covariance matrix were therefore computed with robust statistics.

**Missing values.** Because clients had to have attended the pre-test and post-test evaluations in order to be included in the analysis, there were no missing values for client outcomes. Missing values on the therapist variables were not replaced.

**Generalised Linear Mixed Models (GLMMs).** In all GLMMs, pre-test CORE scores were grand mean centred and included in the model as a covariate and post-test CORE scores provided the client outcome. All predictors in the analyses were also grand mean centered for interpretability.

### Therapist Characteristics

This first analytical group consists of three separate GLMMs, one for therapists' demographics variables, the other for caseload, and the last for the degree of theoretical integration.

**Demographics.** Years of experience, gender, age (three categories), profession (five categories), highest qualification (seven categories) were initially analysed with *separate* GLMMs in order to identify the predictors that were correlated with adjusted client outcome. None of the five predictors was significantly related to client outcome: years of experience ( $b = .003$ ,  $SE = 0.008$ ,  $t[1599] = 0.43$ ,  $p = .667$ ,  $\eta^2 = 0.0001$ ); gender ( $b = -.021$ ,  $SE = 0.087$ ,  $t[1599] = -0.246$ ,  $p = .806$ ,  $\eta^2 = 3.7522E-05$ ); profession ( $F[4, 1596] = 0.73$ ,  $p = .571$ ,  $\eta^2 = 0.0005$ ); age ( $F[2, 1598] = 2.73$ ,  $p = .066$ ,  $\eta^2 = 0.001$ ) and qualification ( $F[6, 1594] = 1.020$ ,  $p = .410$ ,  $\eta^2 = 0.0006$ ). No further analyses were conducted on these predictors.

**Caseload.** The number of clients seen by a given therapist was indicated as *caseload*. This was entered into a new regression model and was not related to client outcome ( $b = 0.000$ ,  $SE = 0.000$ ,  $t[1599] = 0.998$ ,  $p = .381$ ,  $\eta^2 = 0.0006$ ). No further analyses were conducted on this predictor.

**Integration.** Therapists in Study II were asked to rate the degree to which they regarded their theoretical orientation as integrative on a 6-point likert-scale from “*not at all*” to “*very greatly*”. Integration was entered into a new regression model and was not significantly related to client outcome ( $b = 0.03$ ,  $SE = 0.03$ ,  $t[1599] = 1.07$ ,  $p = .283$ ,  $\eta^2 = 0.0007$ ). No further analyses were conducted on this predictor.

### Deliberate Practice

In the second analytical group, there were four GLMMs. GLMM1 consisted of a single therapist variable that reflected the amount of time spent in solitary deliberate practice. Each of the other three GLMMs consisted of a set of predictors reflecting the amount of time engaged in solitary therapy activities (GLMM2), non-solitary therapy activities (GLMM3), and non-therapy related activities (GLMM4). An a priori decision was made to apportion the familywise error in favor of the least complex GLMM1 (Holm, 1979; Klockars & Hancock, 1992; Klockars, Hancock, & McAweeney, 1995). GLMM1 was therefore evaluated at an alpha-level of .04, whereas the other three GLMMs were evaluated at an alpha-level of .003 ( $.04 + .003 + .003 + .003 = .05$ ).

**Amount of time spent alone in deliberate practice (1 predictor).** Therapists were asked, “*How many hours per week (on average) do you spend alone seriously engaging in activities related to improving your therapy skills in the current year?*” This refers to *deliberate practice alone*. Average number of hours per week spent alone in deliberate practice was grand mean centered and entered in a new regression model. Based on the weighted  $\alpha$  level of .04 (Klockars & Hancock, 1992), this was a significant predictor of the adjusted client outcome ( $B = -0.016$ ,  $SE = 0.007$ ,  $t[1586] = 2.09$ ,  $p = .037$ ,  $\eta^2 = 0.003$ ). The negative regression coefficient indicating that client outcome scores decreased (i.e., lowered outcome scores means improvement) as therapists spent more time alone in deliberate practice. Based on the eta-squared computation, *deliberate practice alone* explained 0.3% of the total variance in the adjusted client outcome.

The following sections examine the relationship between the Post-CORE scores (adjusted for Pre-CORE scores) and the amount of time spent on each of the domain-specific activities in the practice of psychotherapy. Each of the therapists provided a rating of their confidence [0 (*not at all confident in my time estimate*) to 10 (*highly confident in my time estimate*)] on

the time spent for each of the 25 activities. Most of the confidence ratings ranged from a mean of 6.47 ( $SD = 2.850$ ) to 9.33 ( $SD = 1.231$ ).

**Amount of time spent on each of the 10 solitary therapy activities (10 predictors).**

The 10 activities were the average number of hours per month spent on (a) reading psychotherapy and counselling journals; (b) reading/re-reading about core counselling and therapeutic skills in psychotherapy; (c) reviewing therapy recordings; (d) reviewing difficult/challenging cases; (e) reflecting on past sessions; (f) reflecting on what to do in future sessions; (g) writing down reflections of previous sessions; (h) writing down plans for future sessions; (i) viewing master therapist videos with the aims of developing specific therapist skills; and (j) reading case studies. Each of the 10 predictors derived from these activities was initially analysed with a *separate* GLMM in order to determine whether it was correlated with adjusted client outcome. None of the 10 predictors was significantly related to the client outcome (see Appendix G, Table G4). No further analyses were conducted on these predictors.

**Amount of time spent on each of the nine non-solitary therapy activities (9 predictors).** The nine activities were: (a) general clinical supervision as a supervisee *without* review of audio/visual recordings of sessions; (b) clinical supervision as a supervisee *with* review of audio/visual recordings of sessions; (c) clinical supervision as a supervisee reviewing challenging cases or cases with no improvement; (d) live supervision provided during sessions as co-therapist; (e) focused learning in specific models of psychotherapy; (f) reviewing recordings of therapy sessions with peers; (g) attending training workshops for specific models of therapy; (h) case discussions with a clinical supervisor; and (i) discussions of psychotherapy related subjects with peers or mentors. Each of the 9 predictors derived from these activities was initially analysed with a *separate* GLMM in order to determine whether it was correlated with adjusted client outcome. Activity (a) and (c) could not be



analysed due to zero variance (all therapists responding with a zero). None of the remaining predictors was significantly related to the client outcome (see Appendix G, Table G4). No further analyses were conducted on these predictors.

**Amount of time spent on each of the five non-therapy related activities (5 predictors).**

The five activities were: (a) self-care activities and tending to emotional needs, (b) socialising, (c) exercising, (d) rest (e.g., naps in the day, going for a walk, engaging in a non-therapeutic activity that is enjoyable), and (e) others. Each of the 5 predictors derived from these activities was initially analysed with a *separate* GLMM in order to determine whether it was correlated with adjusted client outcome. The amount of time spent on self-care was the only significant predictor of client outcome ( $b = 0.007$ ,  $SE = 0.003$ ,  $t[1549] = 2.16$ ,  $p = .031$ ,  $\eta^2 = 0.003$ ) (see Appendix G, Table G5 for all the results of the five predictors). Based on the Bonferroni correction, after dividing the alpha value by the number of GLMM models tested in this analytical group (i.e., three), the effect was no longer significant.

**The Use of Feedback**

**Number of times each of five types of feedback elicited from clients (5 predictors).**

Next, in order to focus on the analysis of therapists' use of feedback mechanisms with their clients, each therapist was asked to recall from a typical work week, out of 10 clients, the number of clients that were involved the following five feedback activities: (a) feedback formally elicited; (b) feedback informally elicited; (c) surprised by clients' feedback; (d) using formal feedback to compare and contrast therapist's assessment with the client's view of progress; and (e) perceiving client's formal feedback as not credible. They were also asked to rate their confidence [ $0$  (*not at all confident in my time estimate*) to  $10$  (*highly confident in*

*my time estimate*] in these estimates. Most of the confidence ratings ranged from a mean of 8.55 ( $SD = 2.77$ ) to 9.79 ( $SD = 0.426$ ).

Each of the predictors derived from the five aspects of feedback was initially analysed with a *separate* GLMM in order to determine whether it was correlated with adjusted client outcome. Feedback activities (a), (b), (d), and (e) were not significant predictors of client outcome (see Appendix G, Table G6). The only significant predictor was the number of times the therapist was “surprised by the clients’ feedback” ( $b = -0.134$ ,  $SE = 0.038$ ,  $t[1545] = -3.543$ ,  $p < .001$ ,  $\eta^2 = 0.01$ ). The negative regression coefficient indicates that client outcome scores decreased (i.e., improved) the more often therapists reported being surprised by the clients’ feedback. Based on the eta-squared computation, surprised by the clients’ feedback explained 1% of the total variance in the adjusted client outcome.

### **Therapists Work Involvement & Professional Development**

This fourth analytical group consists of two separate GLMMs, one for the work involvement factors and the other for the psychotherapists’ professional development factors.

**Psychotherapists’ Work Involvement Scales (11 predictors).** The first GLMM was for the main factors and component scales in the Psychotherapists’ Work Involvement Scales, and the second was for the components in the Psychotherapists’ Professional Development Scales.

The two main factors of the work involvement, Healing Involvement (HI) and Stressful Involvement (SI) scores were simultaneously entered into the GLMM. HI was a significant predictor of adjusted client outcome ( $b = 0.076$ ,  $SE = 0.021$ ,  $t[1408] = 3.10$ ,  $p = .002$ ,  $\eta^2 = 0.007$ ), but SI was not ( $b = 0.017$ ,  $SE = 0.02$ ,  $t[1408] = 0.79$ ,  $p = .429$ ,  $\eta^2 = 0.0004$ ). After dividing the alpha value by the number of GLMM models tested in this analytical group (i.e., two), HI was still a significant predictor of adjusted client outcome. The positive regression

coefficient for HI indicates that therapists with higher HI self-ratings had poorer client outcomes. Based on the eta-squared computation, HI explained 0.7% of the total variance in the adjusted client outcome.

A finer grained analysis of the Psychotherapists' Work Involvement Scales was conducted on the individual components of these factors. The component scales (Basic Relational Skills, Invested, Efficacy, Affirming, Flow, Constructive Coping, Difficulties in Practice, Boredom; Anxiety, Avoidant Coping, and Net Work Satisfaction) were each analysed with a separate GLMM in order to determine whether it was correlated with adjusted client outcome and therefore a candidate for inclusion in the multiple predictor model. Only 1 out of the 11 component scale predictors were significantly related to client outcome: *Relational Manner: Affirming* component ( $b = 0.048$ ,  $SE = 0.021$ ,  $t[1409] = 2.243$ ,  $p = 0.025$ ,  $\eta^2 = 0.004$ ) (see Appendix G, Table G7 for the results of the non-significant findings). However, after dividing the alpha value by the number of GLMM models tested in this analytical group (i.e., two), the effect just reached significance.

**Psychotherapists' Professional Development Scales (4 predictors).** Next, the four components of the Psychotherapists' Professional Development Scales (Overall Career Development, Currently Experiencing Growth, Currently Experiencing Depletion, and Motivation to Develop) were each analysed with a separate GLMM in order to determine whether it was correlated with adjusted client outcome and therefore a candidate for inclusion in the multiple predictor model. None of the predictors was significantly related to the client outcomes (see Appendix G, Table G8). No further analyses were conducted on these predictors.

### **Self-Assessments**

This fifth analytical group consists of two separate GLMMs, self-assessment of the first year of clinical practice and current self-assessment.

**Self-assessment of first year (7 predictors).** Therapists reflected on their first year of practice and were asked to rate the following relative to other mental health professionals within their field (with similar credentials), in terms of a percentile (0-100%) (0-100%, e.g., 25% = below average, 50% = average, 75% = above average): (a) Level of effectiveness; (b) The proportion of clients who got better; (c) The proportion of clients who stayed the same; (d) The proportion of clients who got worse; (e) The proportion of clients who dropped out of treatment; (f) The proportion of clients of whom they are unable to judge; and (g) Their working alliance ability (see Appendix D for this questionnaire). The seven variables were each analysed with a separate GLMM in order to determine whether they were correlated with adjusted client outcome and therefore a candidate for inclusion in the multiple predictor model. Only one predictor, Working alliance in the first year of practice, was significantly related to client outcome ( $b = -0.004$ ,  $SE = 0.002$ ,  $t[1409] = -2.092$ ,  $p = .037$ ,  $\eta^2 = 0.003$ ) (see Appendix G, Table G9 for the results of all the 7 predictors). After dividing the alpha value by the number of GLMM models tested in this analytical group (i.e., two), the effect was no longer significant.

**Current self-assessment (7 predictors).** Therapists were asked to give the same ratings in relation to their current practice. Once again, each of the seven predictors was analysed with a separate GLMM. None of the predictors was significantly related to client outcome (see Appendix G, Table G9 for the results of all the 7 predictors, and Tables G10 for descriptive statistics).

## Therapist's Mindset

This sixth analytical group consists of two separate GLMMs, the Dweck's Mindset Questionnaire (DMQ) and the Therapist Mindset Questionnaire (TMQ).

**Dweck Mindset Questionnaire (DMQ) (2 predictors).** Fixed mindset and growth mindset scores from the DMQ were simultaneously entered into the GLMM. Neither was significantly related to adjusted client outcome (fixed mindset:  $b = -0.095$ ,  $SE = 0.069$ ,  $t[1598] = 1.37$ ,  $p = .171$ ,  $\eta^2 = 0.001$ ; growth mindset:  $b = -0.102$ ,  $SE = 0.083$ ,  $t[1598] = 1.24$ ,  $p = .217$ ,  $\eta^2 = 0.001$ ).

**Therapist Mindset Questionnaire (TMQ) (10 predictors).** Fixed mindset and growth mindset scores from the TMQ were simultaneously entered into the GLMM. Neither was significantly related to client outcome (fixed mindset:  $b = 0.068$ ,  $SE = 0.154$ ,  $t[1599] = 0.441$ ,  $p = .659$ ,  $\eta^2 = 0.0001$ ; growth mindset:  $b = 0.068$ ,  $SE = 0.125$ ,  $t[1599] = 0.574$ ,  $p = .584$ ,  $\eta^2 = 0.0002$ ). A finer grained analysis of mindset was therefore conducted on the individual components of these factors. Each of the two factors has the same five components (beliefs about ability, challenges and obstacles, effort, criticism, and success of others). Each component was analysed with a separate GLMM in order to determine whether it was correlated with adjusted client outcome and therefore candidate for inclusion in the multiple predictor model. None of the components was significantly related to client outcome (see Appendix G, Table G10 for all the results of the 10 predictors).

## Statistical power

Before conducting the primary analyses, the relationship between each of the 88 predictors and the adjusted client outcome was examined with a separate GLMM. The aim of these analyses was to identify predictors that were not related to the adjusted client outcome. These predictors were then dropped from all subsequent analyses in order to avoid suppressor

effects. As the significance of these preliminary analyses would determine the nature of the GLMM models that were eventually tested, it was therefore essential that these preliminary GLMMs were sufficiently powered. In total, 1632 clients contributed data to the preliminary GLMMs; but only 17 therapists who were their treating practitioners contributed. Moreover, each therapist contributed a single score - albeit multiple times across clients. The power of the GLMMs would therefore be largely constrained by the number of therapists. The power of the preliminary GLMMs can therefore be estimated by determining the power of a single-level regression model with 17 cases, one covariate, and one primary predictor. According to G\*Power (Faul, Erdfelder, Buchner, & Lang, 2009; Faul, Erdfelder, Lang, & Buchner, 2007), at an alpha-level of .05, the model would have a power of just .6 to detect 'large' relationships between client and therapist variables. A 60% probability of capturing a 'large' relationship between client and therapist variables in the underlying population is substantially short of the 80% probability that is required in the behavioural sciences (Cohen, 1992). In spite of the inherent limitation of the sample size, three significant findings, albeit small in the conventions of eta-squared values (.01 = small; .06 = moderate; .15 or more = large), were established, even after corrections were made to the  $\alpha$  level to account for multiple comparison procedures.

### **Summary of Multilevel Modeling of Therapist Predictors**

Taking into account the hierarchical structure of clients (Level 1) nested within therapists (Level 2) and therapists nested within treatment sites (Level 3), the GLMMs revealed several interesting effects, after adjusting for initial severity of client's psychological functioning and accounting for the treatment sites. First, therapist demographic variables were not significant predictors of client outcomes.

Second, the amount of time therapists spent alone seriously engaging in activities (*deliberate practice alone*) appeared to predict their effectiveness levels, explaining 0.3% of the total variance in client outcomes.

Third, in the analysis of therapists' use of feedback in clinical practice, therapists were asked to indicate how many client sessions (out of 10) in the last typical work week involved a particular feedback activity. Only one of the predictors was significant, namely, the number of times the therapist was surprised by clients' feedback, which accounted for about 1% of the total variance in client outcomes.

Fourth, out of 13 predictors in the Psychotherapists' Work Involvement Scales, only therapist's HI was a significant predictor to client outcomes. Specifically, therapists who rated higher in HI activities achieved poorer client outcomes.

Finally, none of the 14 therapist self-assessment measures, as well as the therapist mindset scales, was a significant predictor of client outcomes.

**Further Analyses**

Further analyses were conducted on therapist professional activities, use of feedback, professional development, and therapist self-assessments (see Appendix G, Tables G1 & G2 for descriptive statistics of main outcome and therapist variables). The following analyses were predominantly descriptive in nature and served to compliment the more rigorous regression analyses conducted in the previous section. Ultimately, these further analyses will illustrate the impact of key therapist explanatory variables that impact client outcomes. Similar to the rank ordering of therapists analyses conducted in Study I, some of the examples split therapist into quartiles, based on their effectiveness levels, in order to illustrate the differences in their professional work practices.

**Assumptions for Spearman's  $r$ .** Spearman's  $r$  is the non-parametric version of Pearson's  $r$ , and therefore does not assume that the two variables being correlated are normally distributed (Field, 2005). Spearman's  $r$  does assume that the two variables are at least ordinal and that the relationship between the two variables – if there is one - is monotonic. A monotonic relationship is a relationship that does one of the following: (1) as the value of one variable increases, so does the value of the other variable; or (2) as the value of one variable increases, the other variable value decreases. The monotonic relationship does not have to be linear. The assumption of a monotonic relationship is therefore less restrictive than the assumption of a linear relationship that has to be met by the Pearson's  $r$ . For these reasons, Spearman's  $r$  was employed in the present analyses as the measure of association.

**Assumptions of one-sample  $t$ -test.** The one-sample  $t$ -test assumes *approximately* interval data, and normality of the population from which the sample was drawn (Howell, 2013). The sample distribution for the one-sample  $t$ -tests conducted were assumed as an approximation of the underlying population distribution. Although some of these



distributions were skewed, this would have little effect on the one-sample t-statistic (Howell, 2013).

**Therapist age.** The relationship of age and adjusted outcomes was non-monotonic, that is, therapists aged 61 and older performed the best, therapists within the age range of 56-60 performed the worst, and therapists within the age range of 41-55 performed the second best out of the three groups. Consistent with the GLMM analysis, a one-way ANOVA revealed no significant differences between the therapist age group  $F(2, 17) = 1.72, p = .217, \eta^2 = .209$  (41 to 55 age group  $N = 11$ ; 56 to 60 age group  $N = 1$ ; 61 or older age group  $N = 5$ ). Unfortunately, unlike Study I, therapists younger than 41 years ago were not represented in this sub-sample.

**Integration.** Out of the 17 therapists, 14 of them (82.4%) viewed their therapeutic orientation as eclectic or integrative (based on those who rated *moderately*, *greatly*, and *very greatly*). Only one therapist from each group rated as “not at all,” “little,” “some,” and “moderately.” There was no significant correlation with ratings of integration/eclecticism to adjusted client outcomes ( $r_s = -.103, N = 17, p = .694$ , two-tailed).

**Amount of time spent in deliberate practice alone.** As an elaboration of the significant findings in the previous multilevel modeling (MLM) section, an examination of the amount of time spent in solitary deliberate practice among the therapists who participated in Study II was conducted. Using the previous ranking procedure, a significant correlation with the amount of time spent in “deliberate practice alone” and adjusted client outcomes was found ( $r_s = -.545, N = 15, p = .036$ , two-tailed).

For the purpose of illustrating the differences between the highly effective therapists and the rest of the cohort, therapists were grouped into quartiles based on their effectiveness (i.e., the most effective therapists in the top quartile). The grouping of therapists was derived from the ranking of the complete 69 therapists cohort in Study I (see Appendix E, Table E4). As

the average years of experience for the cohort in Study II was 8.45 ( $SD = 5.24$ ) (See Table 10), only the first eight years of accumulated time spent on solitary deliberate practice was highlighted.

Table 10

*Years of Clinical Experience for Each of the Four Groups of Therapists Ranked in Terms of Their Aggregated Adjusted Client Outcomes*

Years of Clinical Experience			
Ranking by Quartiles based on the Main Sample in Study I	<i>M</i>	<i>N</i>	<i>SD</i>
First Quartile	7.38	8	3.20
Second Quartile	11.25	5	8.34
Third Quartile	5.78	3	2.55
Fourth Quartile	11.00	1	-
Total	8.45	17	5.24

*Note.* *N* = number of participants; *M* = Mean; *SD* = Standard Deviation

As seen in Table 11, on average, the top quartile group of therapists invested about 1.79 times more time on “deliberate practice alone”, compared with the second quartile group of therapists. The top quartile group spent about 3.7 times more time on “deliberate practice alone” than the third quartile group, and the second quartile group spent about twice as much time than the third quartile group of therapists.

Table 11

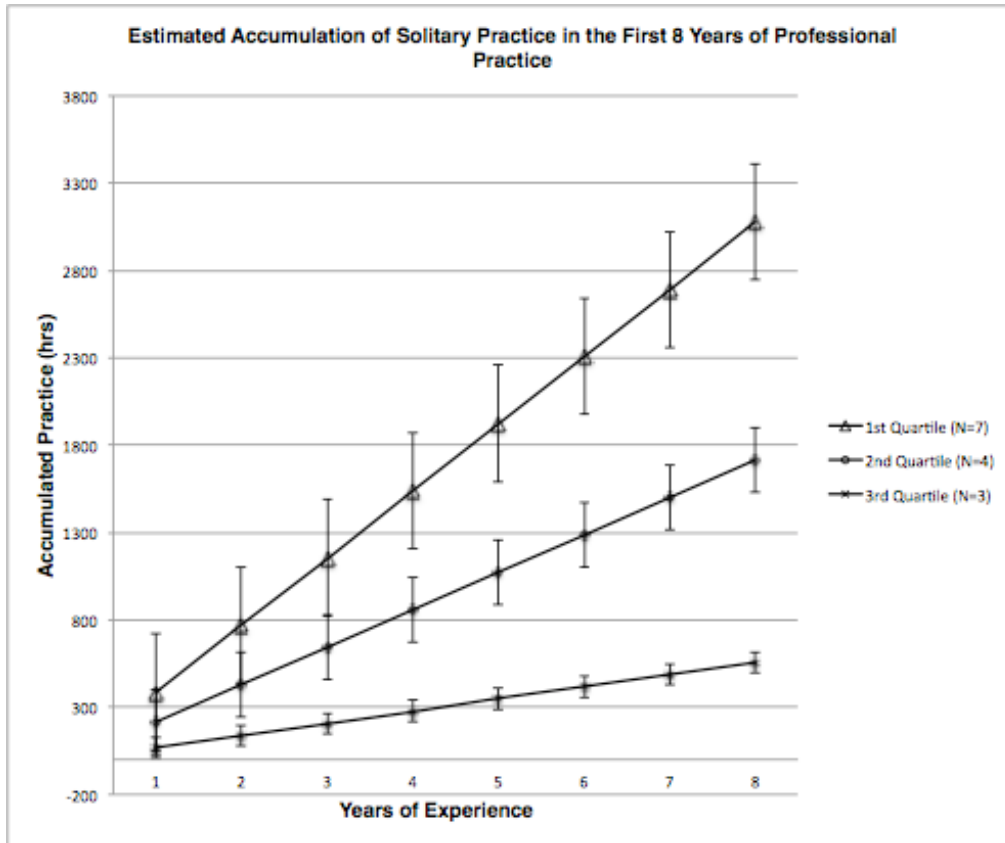
*Amount of Time Spent on Deliberate Practice Alone Per Week Grouped into Quartiles Based on Therapists Adjusted Client Outcomes*

Deliberate Practice Alone	<i>N</i>	<i>M</i>	<i>SD</i>
<i>Grouped by Quartiles</i>			
1st Quartile	7	7.39	7.56
2nd Quartile	4	4.13	3.17
3rd Quartile	3	2.00	1.78
4th Quartile	1	0.50	-

*Note.* Groupings of therapists were based on the ranking of the complete 69 therapists cohort in Study I. Two out of the 17 therapists in Study II did not complete this part of the questionnaire. *N* = number of therapists; *M* = Mean; *SD* = Standard Deviation.

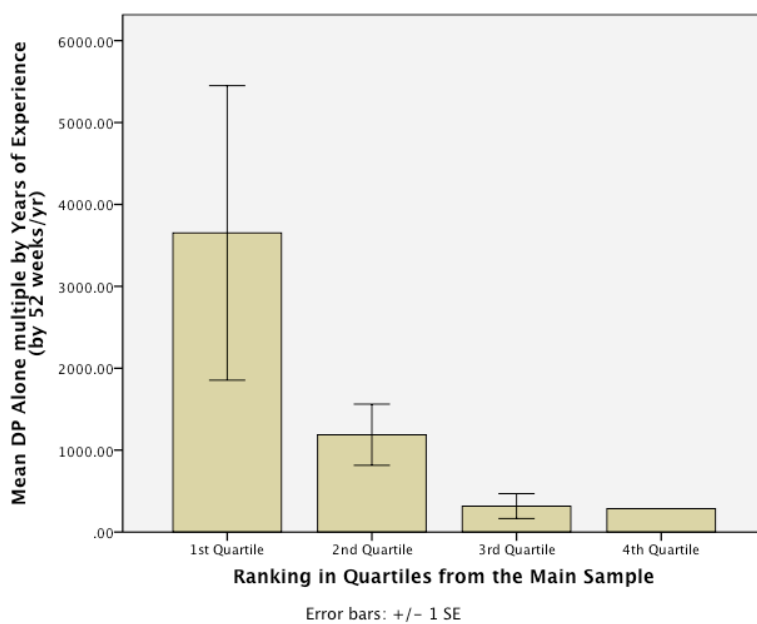
Figure 5 illustrates the estimated accumulated time spent on solitary deliberate practice in the first eight years of professional practice for the first, second, and third quartile group of therapists. Based on Ericsson and colleagues (1993) recommendations, the figures were derived on the basis of the self-reported amount of time spent in solitary deliberate practice in a typical work week, multiplied by 52 weeks per year, followed by the adding the accumulative time spent as a function the years of experience. Due to the limitation of the self-selection bias of therapist examined within this network of practitioners, only one therapist from the bottom quartile group participated in Study II. This was not included in the Figure 3. However, for the purposes of comparison, this therapist spent on average, 0.5 hours per week on solitary practice, which is 14.78 times lesser than the top quartile group, 8.26 times lesser than the second quartile group, and 4 times lesser than the third quartile group of therapists.

From another perspective, Figure 6 plots the amount of solitary practice for the first, second, third, and fourth quartile group of therapists, as a function of each therapist's years of experience. Once again, an upward trend is observed, as the top quartile group of therapists spent more accumulative time in solitary practice, compared to the other three groups of therapists.



Note. Error bars = standard error of the mean (SE); due to small sample size at some of the data points, the error bars are not so visible in the graph for the 2<sup>nd</sup> and 3<sup>rd</sup> Quartile

Figure 5. Therapists grouped into quartiles based on their adjusted client outcomes, as a function of their accumulative time spent on “deliberate practice alone” in the first eight years of clinical practice.



*Note.* SE = Standard Error of Mean; 4<sup>th</sup> Quartile consist of only one therapist. Therefore, no error bar was included.

*Figure 6.* Therapists grouped in quartiles based on their adjusted client outcomes as a function of their accumulative time spent on “deliberate practice alone”.

***Ratings of relevance and cognitive effort for domain related activities.*** Along with the amount of time spent for each of the 25 domain specific therapy and non-therapy related activities, each of the respondents were asked to rate the *relevance* [0 (*not at all relevant*) to 10 (*highly relevant*)] in relation to improving their client outcomes, and the *cognitive effort* [0 (*no effort exerted at all*) to 10 (*highest possible effort exerted*)] required for each of the activities. Unlike the variable of “amount of time spent” on each of the 25 activities, the relevance and cognitive effort rating were not included in the multilevel regression models, as the focus of this thesis is on the impact of therapists’ investment of time on professional activities and how it influences client outcomes. Nonetheless, this analysis compliments the findings obtained in the GLMMs, in understanding a therapists’ perception of the relevance of a given activity, and the mental effort required to participate in it.

Using the non-parametric test Friedman two-way analysis of variance by ranks to compare dependent observations that are repeated on the same participants (Howell, 2013), the analysis revealed significant differences in the relevance ratings across the 25 domain related activities,  $\chi^2(24) = 58.03, p < .001$ . For example, “reviewing difficult/challenging cases alone”, “attending training workshops for specific models of therapy”, “mentally running through and reflecting on past sessions in your mind”, and “mentally running through and reflecting on what to do in future sessions” was rated higher than the grand mean of relevance ratings. “Live supervision provided during sessions” was rated as less relevant than the average ratings. The analysis was repeated for the cognitive effort ratings of the activities and similarly indicated significant differences in ratings across the 25 domain

related activities,  $\chi^2(24) = 57.12, p < .001$ . For example, “clinical supervision as a supervisee (review of difficult/challenging cases and/or cases with nil improvement)”, and “attending training workshops for specific models of therapy” was rated as needing more effort than the grand mean ratings of cognitive ratings. An overview of the mean of each of the activities’ relevance and cognitive effort ratings are provided in Table 11:

Based on recommendations made by Keppel and Wickens (2004), all 25 items were ranked based on their means. A series of one-sample t-tests were conducted comparing the grand mean for the relevance rating to each item mean, starting with the item with the highest relevance rating and progressing down to the item with the lowest relevance rating. This was also repeated starting with the items with the lowest relevance and progressing upwards. The process stops at the first non-significant pair-wise comparison. This strategy was repeated for ratings of cognitive effort. Similarly formatted to Ericsson et al. (1993) table on domain related activities, the results are reported in Table 12.

Table 12

*Mean Relevance and Cognitive Effort Ratings for 20 Therapy Related and 5 Non-Therapy Related Activities for Participating Therapists*

Domain Related Activities	N	Relevance		Cognitive Effort	
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
1. General clinical supervision as a supervisee (without review of Audio/Visual recordings of sessions).	13	6.92	2.63	7.46	2.63
2. Clinical Supervision as a supervisee (with review of Audio/Visual recordings of sessions).	10	4.10	3.93	5.30	4.60
3. Clinical Supervision as a supervisee (review of difficult/challenging cases and/or cases with nil improvement).	12	7.67	2.77	8.00 <b>H</b>	2.76
4. Live supervision provided during sessions (e.g., supervisor as co-therapist, one-way mirror/reflecting team, etc.)	10	3.40 <b>L</b>	4.01	5.80	5.01
5. Reading of journals pertaining to psychotherapy and counselling.	14	7.21	1.67	6.71	1.68
6. Reading/Re-reading of core counselling and therapeutic skills in psychotherapy.	11	6.55	3.24	6.00	2.79
7. Focused learning in specific model(s) of psychotherapy.	11	7.27	2.87	7.45	2.98
8. Reviewing therapy recordings alone.	10	4.00	3.71	4.40	3.98
9. Reviewing of therapy recordings with peers.	10	4.30	3.83	4.50	4.04
10. Reviewing difficult/challenging cases alone.	14	8.00 <b>H</b>	2.77	7.43	2.59
11. Attending training workshops for specific models of therapy.	12	8.00 <b>H</b>	2.17	8.25 <b>H</b>	1.96
12. Case discussion/ conceptualisation/ formulation with a mentor/clinical supervisor.	12	6.25	3.49	6.50	3.26
13. Mentally running through and reflecting on the past sessions in your mind.	15	8.20 <b>H</b>	2.65	7.13	2.30
14. Mentally running through and reflecting on what to do in future sessions.	15	8.40 <b>H</b>	2.38	7.07	2.05

15. Writing down your reflections of previous sessions.	12	7.92	3.00	6.92	3.20
16. Writing down your plans for future sessions.	13	7.00	2.89	6.15	2.97
17. Case discussion/ conceptualisation/ formulation with peers.	12	6.67	2.64	6.75	2.45
18. Viewing master therapist videos, with the aims of developing specific therapeutic skills as a therapist.	11	4.36	3.23	4.45	3.70
19. Reading case examples (e.g., narratives, transcripts, case studies).	12	4.33	3.23	4.92	3.40
20. Discussion of psychotherapy related subjects with contemporaries/peers/mentors.	13	6.85	3.02	5.69	2.66
21. Tending to self-care activities and emotional needs.	13	7.31	2.29	4.85	3.58
22. Socialising.	15	6.80	2.83	5.13	2.83
23. Exercising.	15	6.27	3.63	4.40	3.68
24. Rest (e.g., naps in the day, going for a walk, engaging in a non-therapeutic activity that is enjoyable)	15	7.40	2.59	4.13	3.54
25.Others (Please specify):	7	5.00	4.00	5.57	4.43
<b>Grand Mean</b>		<b>6.41</b>		<b>6.04</b>	

*Note. H = significantly higher than the grand mean; L = significantly lower than the grand mean. Similar to Ericsson et al. (1993) study, the statistical test employed is conservative as the grand mean includes the ratings for the particular activity with the respective comparison. Some therapists did not provide the rating of particular activities, as they did not engage in the activity in question.*

*“Others” include musical activities, meditation, spiritual practices, child-rearing, reading non-therapy related topics, etc.*

*N = number of participants; M = Mean; SD = Standard Deviation*

As indicated in Table 12, the following activities had significantly higher than average relevancy ratings: “Reviewing difficult/challenging cases alone,”  $t(13)= 2.15, p = .05$ , “attending training workshops for specific models of therapy,”  $t(12)= 2.53, p = .028$ , “mentally running through and reflecting on the past sessions in your mind,”  $t(14)= 2.62, p =$



.020, and “mentally running through and reflecting on what to do in future,”  $t(14)= 3.23, p = .006$ . Interestingly, therapists rated live supervision provided during sessions,  $t(9)= -2.38, p = .041$ , as the least relevant.

With regards to the ratings of cognitive efforts among all the activities, therapists rated “clinical supervision as a supervisee (review of difficult/challenging cases and/or cases with nil improvement) ,”  $t(11)= 2.46, p = .032$ , and “attending training/workshops,”  $t(11)= 3.91, p = .002$  as requiring significantly higher than average effort.

There were no significant correlations of therapists’ adjusted client outcomes and the 25 relevance ratings of the taxonomy of domain related activities. In terms of the cognitive effort ratings, only “reviewing of therapy recordings alone” was significantly correlated with therapists’ adjusted client outcomes ( $r_s = -.665, N = 10, p = .036$ , two-tailed). Nevertheless, this was not a significant predictor in the GLMM ( $b = -0.025, SE = 0.025, t[653] = -0.98, p = .0328, \eta^2 = 0.002$ ).

Out of the 25 activities, 21 (“live supervision during sessions,” “reading/re-reading core counselling materials,” “writing down plans for future sessions,” and “self-care activities and tending to emotional needs” were not significant) were significantly correlated between the relevance and cognitive effort ratings for each of the activities,  $r^s$  ranging from .56 to .92. In other words, the majority of activities deemed highly relevant were also likely to be requiring high cognitive effort involving in the given activity.

Participants were also asked to provide a relevance rating across six activities for improving their current therapy skills ( $1= not at all relevant$  and  $7=highly relevant$ ) (see Table 12). This form of relevance rating is similar to the study of chess players conducted by Charness and colleagues (1996). None of the six items was significantly correlated with therapists’ adjusted client outcomes. As such, the decision was made once again, to analyse

all responses across the 17 therapists collectively, regardless of their ranked order. Table 13 provides a descriptive overview of their responses.

Table 13

*Mean Relevance Rating of Six Therapy Activities Across Therapists*

Therapy Activities	<i>M</i>	<i>SD</i>	<i>SE</i>
1. Doing therapy	<b>6.63H</b>	.619	.155
2. Watching better therapists at work	5.38	1.928	.482
3. Attending training/workshops on psychotherapy.	4.81	1.721	.430
4. Practicing therapeutic conversations outside of therapy (e.g., role plays, etc.)	<b>2.69L</b>	1.852	.463
5. Reviewing and reflecting on cases with poor outcomes.	<b>6.13H</b>	1.088	.272
6. Reviewing and reflecting on cases with good outcomes.	5.75	1.183	.296
Grand Mean	5.229		

*Note.* N=16. H = significantly higher than the grand mean; L = significantly lower than the grand mean.

The statistical test employed is conservative as the grand mean includes the ratings for the particular activity with the respective comparison. *M* = Mean; *SD* = Standard Deviation; *SE* = Standard Error of Mean.

Among the six items in Table 13, “doing therapy”,  $t(16) = 9.64, p < .001$ , and “reviewing and reflecting on cases with poor outcomes”,  $t(16) = 3.64, p = .002$ , were rated as significantly more relevant than average, with “practicing therapeutic conversations outside of therapy” being rated as significantly less relevant than average,  $t(16) = -5.29, p < .001$ .

*Summary of deliberate practice activities.* Based on the Generalised Linear Mixed Models (GLMMs), the amount of time spent on solitary practice of activities intended to assist the therapist in improving their skills accounted for a significant proportion of the total variance of client outcomes, explaining 0.3% of the total variance in client outcomes.

In terms of relevance ratings of the taxonomy of therapist professional activities, the following were rated as significantly more relevant than average: “reviewing difficult/challenging cases alone”, “attending training workshops for specific models of therapy”, “mentally running through and reflecting on the past sessions in your mind”, and “mentally running through and reflecting on what to do in future sessions”. Live supervision provided during sessions and reading case examples were rated as significantly less relevant than average.

In terms of ratings of cognitive effort required for the 25 activities in the taxonomy of therapy related activities, “clinical supervision as a supervisee (review of difficult/challenging cases and/or cases with nil improvement)”, and “attending training/workshops” were rated as requiring significantly more effort than average. The majority of the activities were highly correlated between its relevance and cognitive effort ratings for each of the activities.

Finally, therapists were also asked to rate the relevance of six general activities to improving their current therapy skills. “Doing therapy” and “reviewing and reflecting on cases with poor outcomes” was rated as significantly more relevant than average, with “practicing therapeutic conversations outside of therapy” being rated as significantly less relevant than average.

**Feedback.** The focus in this section is related to the use of client feedback in the therapists' clinical practice. Similar to the previous section on deliberate practice, ratings of relevance and cognitive effort required for feedback related activities are highlighted.

***Ratings of relevance and cognitive effort for use of feedback activities.*** In addition to estimating the number of client sessions (out of 10) that were involved in the five feedback activities over the last typical work week, therapists were asked to rate the relevance of each activity [0 (*not at all relevant*) to 10 (*highly relevant*)] to improving their outcomes, and the cognitive effort [0 (*no effort exerted at all*) to 10 (*highest possible effort exerted*)] required for each of the activities. Table 14 summarises therapist responses with regards to the relevance and cognitive effort ratings of each of the five activities.

Table 14

*Ratings of Number of Clients, Relevance, and Cognitive Effort for Each of Five Feedback Activities*

Feedback Activities	Relevance		Cognitive Effort	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
1. Formally elicit feedback about the session from clients (e.g., using the Session Rating Scale).	6.46	3.50	3.85	3.08
2. Informally elicit feedback about the session from clients, without the use of the measures (e.g., SRS).	<b>8.71H</b>	1.20	5.64	2.59
3. Surprised by client's feedback about the session.	7.79	3.42	5.31	2.63
4. Using formal feedback (e.g. CORE/OQ/SRS) to compare and contrast my assessment with the client's view of progress.	<b>8.36H</b>	1.60	4.69	2.39
5. Perceiving formal client's feedback (e.g., CORE/OQ/SRS) as NOT credible information for guiding service delivery.	5.36	4.34	<b>2.33L</b>	2.50
Grand Mean	7.34		4.36	

*Note.* *M* = Mean; *SD* = Standard Deviation H = significantly higher than the grand mean; L = significantly lower than the grand mean. Similar to Ericsson et al. (1993) study, the statistical test employed is conservative

as the grand mean includes the ratings for the particular activity with the respective comparison. Some therapists did not provide the rating of particular activities, as they did not engage in the activity in question.

Number of Therapists: 15 out of 17 therapists responded to the number of client's list of questions. However, a range of 9 to 14 therapists responded to the relevance and cognitive ratings.

Using the same approach to the one adopted in examining the relevance ratings for the taxonomy of therapy related activities, the five feedback activities were rank ordered based on their means (Keppel & Wickens, 2004). A series of one-sample  $t$ -tests were then conducted comparing the grand mean for the relevance rating to each activity mean, starting with the activity with the highest relevance rating and progressing down to the activity with the lowest relevance rating. This was also repeated starting with the items with the lowest relevance and progressing upward. The process terminates at the first non-significant pair-wise comparison. This process was replicated with ratings of cognitive effort.

As indicated in Table 14, “informally elicit feedback about the session from clients, without the use of the measures (e.g., SRS)”,  $t(13)= 4.27, p = .001$ , and “using formal feedback to compare and contrast my assessment with the client's view of progress”,  $t(13)= 2.38, p = .033$ , were rated as significantly more relevant than average. In terms of the cognitive effort ratings, “perceiving formal client's feedback as not credible information for guiding service delivery” was rated as requiring significantly less effort than average,  $t(8)= -2.43, p = .041$ .

***Summary of feedback predictors.*** As indicated in the GLMM analysis, the amount of times the therapist was surprised by clients' feedback is a significant predictor of client outcomes, accounting for 1% of the total variance in client outcomes. In terms of the relevance ratings of all five feedback related activities, “informally elicit feedback about the session from clients, without the use of the measures (e.g., SRS)” and “using formal feedback to compare and contrast my assessment with the client's view of progress” were rated significantly higher than the average of the five feedback activities.

### **Therapist self-assessment.**

***Self-assessment of professional development.*** Next, the focus was on how professional psychotherapists in the HGIRPN sub-sample of 17 therapists rated themselves in terms of their professional development. As an overview, the respondents were asked to rate seven items (see Table 15) on a scale of 1-5 (*1=strongly disagree and 5=strongly agree*). Most therapists viewed themselves as having improved across the years ( $M = 4.53$ ;  $SD = .80$ ). Twelve out of 17 (70.6%) rated *strongly agreed* to Item-1 (each rating a 5), and the others tended to *agree* to Item 1 (rating 3 or above). Thirteen out of 17 (76.5%) *strongly agreed* to “I push myself beyond my comfort zone.” (Rating a 4 or 5). Based on the rank ordering of therapist effectiveness derived from Study I, only one therapist (ranked 8<sup>th</sup>) *strongly disagreed* with this statement (rating a 1). Similarly, only one therapist (ranked 7<sup>th</sup>) *strongly disagreed* with the statement “I am content with my current level of skill as a therapist,” and another therapist (ranked 29<sup>th</sup>) *strongly agreed* with the statement.

***Self-assessment of effectiveness.*** In further examining the potential bias in self-assessments, a set-list of questions was provided to the 17 therapists. Briefly, the participants were asked to rate their perceived percentile (0-100%; 25%=Below Average, 50%=Average, 75%=Above Average) of *current* level of effectiveness, the proportion of clients who got better, stayed the same, got worse, dropped out of treatment, those of whom they are unable to judge, and their working alliance ability. Therapists were also asked to provide estimates of these ratings based on their *first year of practice*. As an extension to the GLMM results, none of the variables in the *current* and *first year of practice* estimates were significantly correlated to therapists’ adjusted client outcomes.

Table 15

*Descriptive Statistics on Therapist Self-Ratings of Professional Development*

Descriptions	<i>N</i>	Min	Max	<i>M</i>	<i>SD</i>
1. I have improved as a therapist across the years.	17	3	5	4.53	.80
2. At times, I worry about losing my edge as a therapist.	17	1	4	1.88	1.05
3. I push myself beyond my comfort zone (e.g., see different clients, try new techniques, reading materials or attending workshops outside of my dominant theoretical view).	17	1	5	4.00	1.06
4. I am content with my current level of skill as a therapist.	17	1	5	3.18	1.02
5. I encounter setbacks.	17	2	5	3.29	.92
6. I am discouraged by setbacks.	17	1	3	1.88	.78
7. I fear that my development as a therapist will stagnate if I do not work at it.	17	1	5	3.18	1.19
Valid N (listwise)	17				

*Note.* Ratings of 1-5 (1= strongly disagree and 5=strongly agree); *N* = number of participants; *M* = Mean; *SD* = Standard Deviation.

Expanding on the earlier GLMM results, on average, therapists rated their current effectiveness level around the 71<sup>st</sup> percentile ( $SD = 17.38$ ). None of them rated below the 50<sup>th</sup> percentile, and half of them rated their current effectiveness at the 75<sup>th</sup> percentile and above. For the purpose of illustration, therapists in the top quartile, in terms of their aggregated outcomes, rated their current effectiveness level around the 72.25<sup>th</sup> percentile ( $SD = 19.55$ ); therapists in the second quartile rated their current effectiveness level around the 69<sup>th</sup> percentile ( $SD = 18.32$ ); and therapists in the third quartile rated their current effectiveness level around the 70.33<sup>rd</sup> percentile ( $SD = 15.50$ ). The fourth quartile group of therapists was not included as it consisted of only one therapist.

In terms of the proportion of their clients currently getting better during the course of treatment, the average clinician rated at the 76.06<sup>th</sup> percentile ( $SD = 11.06$ ) (Table 17). Once

again, none rated below the 50<sup>th</sup> percentile, and half of the therapists rated more than 75% of their clients as improved (see Appendix G, Table G10).

Based on the average ratings of *current* performance, therapists estimated that 11.25% ( $SD = 10.71$ ) of their clients stayed the same, and only 1.54% ( $SD = 1.90$ ) got worse during the course of treatment. There were five therapists (38.5%) who indicated that none of their clients got worse during treatment. On average, clinicians also noted that 8.6% ( $SD = 8.77$ ) of their clients dropped out of treatment, before experiencing any positive change, and 7.58% ( $SD = 10.77$ ) of their clients were deemed as “cannot judge”. Finally, when they were asked to rate their current working alliance ability, on average, clinicians rated about the 76<sup>th</sup> percentile ( $SD = 17.48$ ), with 66.8% of the therapists rating above the 75<sup>th</sup> percentile. None of them rated below the 50<sup>th</sup> percentile. The difference between the current and first year of clinical practice for each of the items were also not significantly correlated to adjusted client outcomes. Tables 16 and 17 below provide the descriptive statistics for therapists’ self-assessments about their estimated first and current year of clinical practice level of performance.

Table 16

*Descriptive Statistics of Therapists’ Self-Assessments on First Year of Clinical Practice of Estimated Performance*

First Year Ratings	<i>N</i>	Min	Max	<i>M</i>	<i>SD</i>
Estimated Effectiveness (%)	15	22.00	100.00	56.07	19.72
Got Better (i.e., experienced significant symptom reduction)	15	35.00	96.00	65.80	13.89
Stayed the Same (%)	15	.00	50.00	21.73	12.54
Got Worse (%)	12	.00	19.00	3.42	5.58
Dropped Out (i.e., stopped therapy before experiencing positive change) (%)	15	.00	35.00	12.40	12.26
Cannot Judge (%)	12	.00	100.00	13.17	28.18
Working Alliance Ability (%)	16	36.00	96.00	63.88	17.52
Valid N (listwise)	11				

*Note.* *N* = number of participants; *M* = Mean; *SD* = Standard Deviation



Table 17

*Descriptive Statistics of Therapists' Self-Assessments on Current Estimated Level of Performance*

Current Ratings	<i>N</i>	Min	Max	<i>M</i>	<i>SD</i>
Current Estimated Effectiveness (%)	16	50.00	99.00	70.88	17.38
Got Better (i.e., experienced significant symptom reduction)	16	59.00	92.00	76.06	11.06
Stayed the Same (%)	16	.00	40.00	11.25	10.71
Got Worse (%)	13	.00	5.00	1.54	1.90
Dropped Out (i.e., stopped therapy before experiencing positive change) (%)	15	.00	34.00	8.60	8.77
Cannot Judge (%)	12	.00	30.00	7.58	10.77
Working Alliance Ability (%)	15	50.00	98.00	75.87	17.48
Valid N (listwise)	11				

*Note.* *N* = number of participants; *M* = Mean; *SD* = Standard Deviation

Therapists were also compared between their actual performance and their self-assessments of effectiveness. Evidently, there were no significant differences between the groups of therapists, in terms of therapists' view of their own effectiveness (i.e., estimated effectiveness, got better). As seen in Table 18, only therapist self-assessment of the dropout rates was significantly different between therapists' grouped in quartiles, based on their actual performance ( $F(2, 15) = 4.33, p < .038$ ). The Tukey HSD post-hoc test revealed significant difference between the dropout rates of the second and third quartile group ( $p < .032$ ), but no significant differences between the first and second quartile group, and the first and third quartile group ( $p < .684; p < .070$ , respectively).

Table 18

*Comparisons of Therapists' Grouping by Performance and Self-Assessments on Current Estimated Level of Performance*

SELF-ASSESSMENTS (CURRENT)								
Quartiles	Estimated Effectiveness	Got Better	Stayed the Same	Got Worse	Dropped Out	Cannot Judge	Working Alliance	
1st Quartile	72.25	75.50	9.00	1.17	7.88	11.75	79.00	
2nd Quartile	69.00	80.60	11.60	1.80	4.40	1.20	74.00	
3rd Quartile	70.33	70.00	16.67	2.00	22.00	12.67	71.67	
4th Quartile*	55.00	60.00	40.00	4.00	34.00	3.00	50.00	

*Note: \* The 4<sup>th</sup> quartile has only one therapist. Thus, comparisons from this group were not made with the other groups.*

As previously seen in Table 17, the self-assessment rate of clients staying the same (i.e., no change) was on average 11.25% ( $SD = 10.71$ ; Min = 0; Max = 40), and the rate of clients getting worse (i.e., deterioration) was on average 1.54% ( $SD = 1.90$ ; Min = 0; Max = 5). On the other hand, compared with actual outcomes for therapists who participated in Study II, the actual rate of clients staying the same (i.e., no change) was on average 28.42% ( $SD = 9.12$ ; Min = 15.38; Max = 40), and the rate of clients getting worse (i.e., deterioration) was on average 1.35% ( $SD = 2.05$ ; Min = 0; Max = 7.14).

**Relationship between therapist variables.** In order to shed light on the relationship between key therapist variables regarding their qualities, views on professional development, and work practices, further preliminary investigation was reported in this section.

**Deliberate practice alone.** Upon further inspection of the variable *deliberate practice alone*, the data suggest that deliberate practice alone is significantly correlated with the amount of time spent on the following solitary activities: “Reading of journals pertaining to psychotherapy” ( $r_s = .69$ ,  $N = 15$ ,  $p = .004$ , two-tailed), and “reading of case examples” ( $r_s = .673$ ,  $N = 15$ ,  $p = .006$ , two-tailed).

In addition, *deliberate practice alone* is significantly correlated with *motivation to develop* ( $r_s = .62, N = 14, p = .017$ , two-tailed), as well as the relevance ratings of “reviewing and reflecting cases with poor outcomes” ( $r_s = .68, N = 15, p = .006$ , two-tailed), and “reviewing and reflecting cases with good outcomes” ( $r_s = .57, N = 15, p = .027$ , two-tailed).

***Surprised by clients’ feedback.*** The variable *surprised by clients’ feedback* is negatively correlated to therapists’ self-ratings of *healing involvement (HI)* ( $r_s = -.53, N = 14, p = .049$ , two-tailed), and is not significantly correlated with *deliberate practice alone* ( $r_s = .50, N = 15, p = .085$ , two-tailed).

***Mindset.*** None of Dweck’s fixed mindset sub-scale was significantly correlated with therapist mindset questionnaire (TMQ) sub-scales. Dweck’s growth mindset sub-scale was significantly correlated with only TMQ’s growth mindset: beliefs about ability sub-scale ( $r_s = -.56, N = 17, p = .020$ , two-tailed) (see Appendix G, Table G12 for the correlation matrix), and approaching significance between Dweck’s growth mindset and TMQ’s total growth mindset ( $r_s = -.47, N = 17, p = .059$ , two-tailed).

***Summary.*** While noting the limitations of simple correlation analyses, the key relationship between the variety of therapist variables suggests that *deliberate practice alone* is significantly correlated with *motivation to develop*, and is not significantly correlated with *surprised by clients’ feedback*. However, *surprised by clients’ feedback* is negatively correlated to HI. Finally, the results indicate limited relationship between Dweck’s mindset and the TMQ sub-scales.

## Chapter 12: Study II Discussion

As a continuation from Study I, 17 out of the 69 therapists from the Human Givens Institute Practice Research Network (HGIPRN) participated in a further study examining their views of professional development and work practices. Close to half of the therapists in this subsample were ranked in the top quartile.

### Therapist Characteristics

As hypothesised, none of the therapist professional demographic variables such as age range, gender, qualifications, profession, and years of experience were significant predictors of client outcomes. This is consistent with previous research, which did not indicate a significant contribution of therapist demographic variables on client outcomes (Beutler et al., 2004).

In terms of theoretical orientation, even though the therapists in this practice research network (PRN) primarily endorse a Human Givens (Griffin & Tyrrell, 2004) approach to psychotherapy, the majority of the therapists in this study reported that they were integrative/eclectic in their approach. Previous large scale cohort studies have also found that most therapists endorse an integrative approach to psychotherapy (Orlinsky & Ronnestad, 2005). The degree of integration was not significantly related to adjusted client outcome (i.e., after adjusting for initial severity and treatment sites). The size of the caseload of a given therapist was also not a significant predictor of adjusted client outcomes. Even though caseload did not significantly impact on client outcomes, past researchers have noted the clinical relevance of being psychologically burdened with too many ongoing cases for the therapist, which may contribute to burn-out and compassion fatigue (Norcross & Guy, 2007). Although the caseloads are high for several of the therapists in this study, it is unclear if they are reflective of the current number of clients being seen, or simply an accumulation of

number of cases they have seen during the period of implementing routine outcome measurement.

### **Deliberate Practice**

In Ericsson and colleagues' (1993) seminal study, solitary practice was the only relevant activity to be defined as deliberate practice. The mediating effect of deliberate practice has also been replicated in a variety of other studies conducted in different professional domains (Charness et al., 2005; Duckworth, Kirby, Tsukayama, Berstein, & Ericsson, 2011; Keith & Ericsson, 2007; Krampe & Ericsson, 1996; Starkes et al., 1996). Consistent with previous findings, the amount of time that a therapist spent in solitary practice (i.e., deliberate practice) was a significant predictor of therapist performance in the GLMM, after adjusting for initial severity and treatment sites. Specifically, based on the operational definition of deliberate practice in this thesis, the amount of time spent alone seriously engaging in activities related to improving their therapy skills in a typical week, deliberate practice accounted for about 0.3% of the total variance in client outcomes. Although this is a small proportion of the total variance in client outcomes, the significance of this finding is worthy of further speculation with regards to the clinical implications of time invested in deliberate practice, given the limitations of the small sample size inherent in this study. This will be expounded later on.

Not surprisingly, the amount of time spent in deliberate practice was highly correlated with therapist ratings of their motivation to develop. In turn, therapists who do improve based on their efforts are also likely to be more motivated and engaged in the process of professional development.

Somewhat similar to Ericsson and colleagues' (1993) investigation of violinists' activities, there were no significant relationship between the amount of time spent in the taxonomy of the 25 domain related activities and therapists' adjusted client outcomes.

Parallel to Betan and Binder's (2010) observation about the irrelevance of pinpointing certain skills that contribute to the development of expertise in psychotherapy, this dissertation also did not yield any specific therapy related activity that significantly impacts therapist's performance. In other words, there were no "magical" activity or method that contributed significantly to a general improvement. Neither did it mean that regardless of what therapists did, the amount of time spent on any given activity led to improvement. Rather, different domain skill-specific activities may be required for different therapists at different competency levels and learning needs. Like other professional fields, conditions that meet the criteria of deliberate practice (Ericsson, 1996; Ericsson, 2006a; Ericsson et al., 1993) are crucial in the development of expert performance in psychotherapy.

Nevertheless, only two out of the 25 taxonomy of related activities were significantly correlated with *deliberate practice alone*: "Reading of journals pertaining to psychotherapy" and "reading of case examples". It is worth considering the salience of these activities, as a form of skills maintenance (Ericsson, 2004; Krampe & Charness, 2006; Krampe & Ericsson, 1996), as opposed to a form of skills acquisition. The average therapist years of experience was approximately 8-9 years, matching Orlinsky and Ronnestead's (2005) description of an "established" cohort. In other words, even the experienced therapists engage in staying abreast with research in psychotherapy, as well as learning from the interactional process in reading case examples, so as to make an effort to maintain their professional competencies.

The findings that the amount of time spent in solitary practice accounts for a significant portion of the variability in client outcomes is consistent with past research in other professional domains. In a similar study investigating the role of solitary practice in chess (Charness et al., 2005), solitary serious analysis of chess and years of private instruction accounted for about 40% of the variance in ratings of chess skills. To date, no study has yet examined a taxonomy of activities that therapists might engage in that influence their overall

outcomes based on client-rated measures. Notwithstanding, a significant proportion of the total variance is still left unexplained, after accounting for the time spent in solitary practice. These results need to be interpreted with caution, as this does not necessarily indicate a causal relationship of deliberate practice activities on client outcome.

**Developmental perspective of therapist skills.** The findings suggest that across their professional career, highly effective psychotherapists spend more time in deliberate practice, compared with the average and less effective psychotherapists. Even though the accumulative amount of time spent on solitary practice is a crude estimate of the actual time spent across the years of professional development as a psychotherapist, Figures 3 and 4 clearly highlight the impact of deliberate practice. These time estimates comparing the differences in the top performing therapists and their cohort are not unlike the trajectories indicated in several studies related to the influence of deliberate practice on the acquisition of expertise in other domains such as music, chess, and figure skating (e.g., Charness et al., 1996; Ericsson et al., 1993; Starks, 1996).

On the surface, it appears that the “10 year-rule” (Ericsson et al., 1993; Simon & Chase, 1973) required in developing expertise in a particular domain did not apply to our sample of therapists. The top performing therapists in our study had an average of about 7.38 years of professional experience. Nevertheless, previous studies have indicated this to be only a very rough estimate (e.g., Ericsson, 2006a). In addition, the estimates of the time spent in solitary practice may be more representative of the time necessary for skills maintenance, rather than skills acquisition, since the figure was indicative of each therapist’s current ratings of the time spent in working to improve their clinical skills. It is possible to speculate the likelihood of more time spent engaging in deliberate practice during the early professional

developmental phase of skills acquisition, compared with the current maintenance of the relevant psychotherapeutic competencies.

Similar findings were suggested by Ericsson and colleagues' (1993) study on violinists. They found that by age 18, the best violinists had accumulated an average of 7,410 hrs of practice, compared to 5,301 hrs of practice by the good violinists, and 3,420 hrs of practice by the music teachers. Consistent with the findings in this thesis, modifying the structured interview conducted in Ericsson and colleagues' (1993) study into a questionnaire, Hodges and Starkes (1996) found that 6 years into their careers, international wrestlers spent reliably more time on training activities related to wrestling than Club-Level westlers.

**Relevance ratings.** Further investigation of the self-reported relevance rating of the 20 therapy related activities and 5 non-therapy related activities did not yield any significant profile differences between therapists of different effectiveness levels. Nevertheless, the cohort of therapists rated the following four activities as highly relevant, compared to the average ratings: "Reviewing difficult/challenging cases alone", "Attending training workshops for specific models of therapy", "Mentally running through and reflecting on the past sessions in your mind", and "Mentally running through and reflecting on what to do in future sessions". Modeling Charness and colleagues' (1996) approach to rate chess players on what they perceived as relevant to improving their skills, "Doing therapy" and "Reviewing and reflecting on cases with poor outcomes" (as opposed to good outcomes) were rated as significantly most relevant. "Practicing therapeutic conversations outside of therapy (e.g., role plays)" was elected as the least relevant to aid their skills development as a therapist. It is likely that this was rated the least relevant in part, due to the fact most of therapists are unable to find the provision for such means of training within their clinical practice.



Even though there were a handful of specific therapy related activities that were nominated as highly relevant in this study, past research on learning has suggested that learners' and instructors' self-ratings of effective methods for enhancing learning are unreliable (Bjork & Bjork, 2011). In an investigation conducted by Kornell and Bjork (2008), they examined the effects of interleaved (spacing) or blocked (consecutive) practice in a learning environment. Surprisingly, the learning of a new concept by observing exemplars benefited from the effects of spacing-interleaving, as opposed to studying the target object one after the other. However, the majority of participants rated blocked practice as a better approach to learning. Thus, consistent with similar findings as the above (e.g., Rohrer & Taylor, 2007; Shea & Morgan, 1979), participant's judgment of what is deemed relevant in effectively learning in the psychotherapeutic context is potentially not a reliable source of informing best practices in modes of learning. Rather, despite the limitations of a retrospective self-report, the actual amount of time invested in serious solitary practice has a more reliable impact on performance. In light of Bjork and colleagues past findings, other forms of conditions need to be considered, in order to enhance learning and instruction processes.

**Cognitive effort.** In terms of cognitive effort required, the results indicate that “Clinical supervision as a supervisee (review of difficult/challenging cases and/or cases with nil improvement)”, and “Attending training/workshops for specific models of therapy” significantly require the most effort. It is worth emphasising that the cognitive effort ratings provided are either the actual or projected amount of effort required for the activity in question. A therapist might have rated a particular activity as requiring maximal amount of effort, but might not have utilised such an activity in their practice. Interestingly, attending training/workshops was also rated as reliably more relevant and requiring more effort than the average by all of the therapists. This could possibly be due to the investment of time away

from work, in order to attend workshops that could span from one-day to five-day training seminars. Moreover, workshops appear to be the primary means for most therapists to acquire new professional knowledge.

Finally, a significant correlation was found between therapists' adjusted outcomes and the cognitive effort ratings of "reviewing of therapy recordings alone." In other words, therapists with better outcomes rated the activity of reviewing of therapy recordings alone as requiring more cognitive effort than other activities. It is possible to infer that the more effective therapists would have more deliberate and intentional methods when reviewing their therapy recordings, thus requiring a more concerted effort on their part. However, caution needs to be adopted regarding interpreting this finding, as this variable was not a significant predictor in the multilevel model.

**Why not just do solitary deliberate practice?** Although this has been empirically validated in other professional domains, to my knowledge, this is the first study to test the theory of deliberate practice in the development of expertise and expert performance in the field of psychotherapy. Consequently, gleaned from past research outside of this profession, the development of a retrospective protocol specific to the practice of psychotherapy was developed for this preliminary investigation.

As described earlier, deliberate practice has been synonymous with solitary forms of engaging in focused, goal-directed practice targeted at improving one's skills. Similar to Ericsson and colleagues' (1993) findings about violinists, in Study II of this thesis, the amount of time spent in therapy-related activities did not differ, but the amount of time engaged specifically in solitary practice - working towards improving their skills - did differ between therapists of different effectiveness.

Does this imply that all psychotherapists should invest all of their time in solitary practice at the cost of other forms of practice? Parallel to the development of expertise in sports (Starkes, 1996), various professional development activities are necessary to provide the scaffold for further focused development of therapeutic skills, based on the level of professional competency a given therapist currently possesses. For example, beginning therapists would need more exposure to client-contact hours, while more experienced senior therapists would likely need more specific forms of on-going skills development (e.g., Binder, 1999). Clearly, without the engagement of other forms of non-solitary types of training, like clinical supervision, peer consultation, attending workshops, as well as other non-therapy self-care related activities, solely engaging in solitary practice is not likely to be sufficient in the development of expertise and expert performance. Moreover, the practice of psychotherapy is not an individual endeavor, but an ongoing ebb and flow of emotionally charged interaction between the therapist and client (Frank & Frank, 1993). In other words, the application of deliberate practice needs to co-exist with contextual factors, such as therapy related training, client-contact, and time for personal activities, in order to enhance learning, skills acquisition, and maintenance of expert performance (e.g., Starkes et al., 1996).

### **Feedback**

Contrary to expectations, the use of formal feedback measures about the session (i.e., Session Rating Scale) was not a significant predictor of client adjusted outcomes. However, the number of times therapists were surprised by their clients' feedback given to them in their last typical work week, was a significant predictor in the GLMM, explaining about 1% of the total variance in client outcome. In other words, higher performing therapists were more likely to be surprised by the feedback that they received from their clients. Similar to the

small proportion of the total variance found in the deliberate practice alone variable, in spite of the small sample size, this finding warrants further consideration.

**Surprised by clients' feedback.** The therapist ratings of the number of times they were surprised by their clients' feedback infer qualities about the therapist's openness, receptivity, and willingness to receive negative and positive feedback. This is consistent with the concept of therapists taking a "not-knowing" stance to the dialogical process of therapy (Anderson, 1990, 2005; Anderson & Goolishian, 1988). That is, while the therapist uses his or her expertise in creating a facilitative environment for the client, the therapist adopts a responsive and tentative posture, while conveying a sense of openness and newness towards the client's unfolding narrative.

Parallel to the Vanderbilt psychotherapy research on the impact of the therapist on client outcomes, Najavits and Strupp (1994) found that effective therapists are more self-critical and reported making more mistakes than less effective therapists. In a more recent study, among other predictors, therapist-reported professional self-doubt (PSD) had a positive effect on client ratings of working alliance, as higher levels of PSD suggests an open attitude towards admitting their own shortcomings (Nissen-Lie et al., 2010). Taken together, this seems to suggest a willingness on more effective therapists' part to evaluate their contribution to the psychotherapeutic process, as well as possibly working on ways to self-correct and improve on their performance. In this research, "surprised by clients' feedback" was negatively correlated to therapists' self-ratings of Healing Involvement (HI). This lends some support to Najavits and Strupp's (1994) findings about effective therapists being more self-critical than other therapists, and Nissen-Lie's (2010) findings on professional self-doubt. In addition, "surprised by clients' feedback" is also not correlated to "deliberate practice alone," suggesting that both constructs are indeed measuring distinct facets of the therapists' professional qualities and work practices.

*Hypercorrection effect.* The hypercorrection theory (Barbie & Metcalfe, 2012; Butterfield & Metcalfe, 2001; Butterfield & Metcalfe, 2006; Metcalfe & Finn, 2011) suggests that individuals are more likely to correct errors made with initial high confidence than those made with low-confidence, so long as the corrective feedback is given. Although it may seem intuitive that deeply held beliefs are more entrenched and are the hardest to change, experimental studies have indicated that individuals are more likely to overwrite their responses and correct their beliefs (Butterfield & Metcalfe, 2001; Butterfield & Metcalfe, 2006), and are more likely to retain the correct answer compared to knowing the correct answer at the outset (Barbie & Metcalfe, 2012). The mechanisms behind the hypercorrection phenomena indicate the possible mediating influence of being surprised by the feedback received, contradicting the initially high confidence beliefs of a particular task, which in turn enhances the memory encoding system of the high-confidence error feedback (Butterfield & Metcalfe, 2006).

The phenomenon of hypercorrection is of relevance to this study's findings on the impact of therapists being surprised by their clients' feedback. Similar to the experimental studies conducted by Janet Metcalfe and her colleagues (Barbie & Metcalfe, 2012; Butterfield & Metcalfe, 2001; Butterfield & Metcalfe, 2006; Metcalfe & Finn, 2011), it appears that therapists in our sub-sample were not only able to elicit "surprising" feedback from their clients, but may have implicitly or explicitly communicated through their on-going interaction with their clients, a sense of openness and willingness to receive and consider their viewpoints, even if it may be contradictory to the therapist existing expectations. On the whole, therapists who received such corrective feedback based on their high-confidence errors, as the theory of hypercorrection suggests, may also better accommodate specific new learning into their practice. In addition, this makes it more likely for them to enhance the encoding process of that new information into the working memory. There is also the

possibility that more effective therapists receive more “surprising” feedback than their counterparts, due to the fact that they are also more likely to accept making mistakes as part of the process of therapy and their professional development, as they see it as part of critical learning opportunities (Bjork, 2009; Dweck, 2006; Miller & Hubble, 2011). Notwithstanding, this is only speculative at this stage with regards to therapist performance.

***Hindsight Bias.*** Another consideration that less effective therapists are less “surprised by clients’ feedback” than the more effective practitioners might be due to the effects of hindsight bias (Fischhoff & Beyth, 1975; Hoffrage, Hertwig, & Gigerenzer, 2000; Roese & Vohs, 2012). Hindsight bias is defined that “an event is more predictable after it becomes known than it was before it became known” (Roese & Vohs, 2012). The findings suggest that less effective therapists might have a disposition to believe that they “knew-it-all-along”, whereas the more effective therapists reported more occasions of disconfirming their initial knowledge and perceptions about the session.

***The use of outcome measures.*** Despite the use of outcome measures (i.e., CORE) as a form of formal feedback in this study, the results still suggest a substantial proportion of variability between therapists. In a recent randomised clinical trial by de Jong, Sluis, Nugter, Heiser, and Spinhoven (2012), the results indicated that not all therapists benefited from the use of feedback. The effects of feedback were in fact moderated by the therapist’s commitment and an open attitude towards the use of feedback. In de Jong and colleagues’ study (2012), it is likely that some therapists do indeed benefit from the utilisation of feedback mechanisms, whereas others might not. Elsewhere, it was found that there were no significant differences in outcomes between groups who used feedback immediately at the end of the sessions, about the session (i.e., Session Rating Scale, SRS), or those who did not use the SRS (Reese et al., 2013). Concurring with de Jong and colleagues’ (2012) findings, the current findings seem to suggest that therapists’ willingness to self-correct and an open

attitude towards learning about clients' opinions and preferences may have moderated the effects of therapist performance, in terms of client outcomes.

***Relevance ratings.*** Both informal methods of eliciting feedback about the session without the use of alliance measures (e.g., Session Rating Scale), and the formal procedure of comparing and contrasting the clinician's assessment with the client's view of progress were rated as highly relevant. The former result concurs with the fact that while therapists in this sample utilise outcome measures to guide their treatments, a lesser extent use alliance measures to formally guide the engagement of the therapeutic progress. In a recent randomised controlled trial (Sripada et al., 2011) investigating a feedback method for improving empathic accuracy, therapist-client dyads in the intervention group were allowed to compare and contrast their empathy ratings of the clients, while the control group did not. Results indicated that therapists in the intervention group displayed greater overall empathic accuracy than the control group, and an increase in empathy ratings later in the therapy. Intriguingly, therapists in the control group were more overconfident about their empathic accuracy, compared to the intervention group (see also Discussion, Self-Assessment Bias).

It is noteworthy to highlight that compared to the other four feedback related activities, "surprised by clients' feedback" was not rated as significantly relevant, even though the estimated number of times a given therapist reported to be surprised by his/her client's feedback was a significant predictor of client outcomes. Given this discrepancy, and as discussed previously (see Discussion on Deliberate Practice), it is possible to explain that therapists' judgment of what is deemed relevant in enhancing their learning, may not be a reliable source of informing what is actually relevant (Kornell & Bjork, 2008; Rohrer & Taylor, 2007; Shea & Morgan, 1979). This further highlights the importance for future researchers not to simply ask therapists to rate the importance or relevance of a particular

activity, but rather, to elicit the frequency of a given activity within a specified time-frame, if the intention is to examine the impact of a specific behaviour.

### **Development of Psychotherapist**

In examining the impact of self-reported views on professional development, as defined by Orlinsky and Ronnestad (2005), and its influence on client outcomes, only one main factor was a significant predictor to therapists' adjusted client outcomes. Contrary to expectations, therapists who rated higher on the main factor Healing Involvement (HI) and its component scale Relational Manner: Affirming had poorer client outcomes. This seems to suggest that therapists' perceptions of how nurturing, invested, and affirming they are in the psychotherapeutic process, is at the very least, not indicative, of how well they are actually doing in achieving positive outcomes with their clients (e.g., Kahneman, 2011). In other words, therapists' own judgment of their therapeutic involvement is a poor predictor of client outcomes, based on client's ratings of progress.

Due to the lack of any significant associations of the Psychotherapists' Professional Development Scales with therapist performance, attention was focused on how these self-reported professional development predictors related to other aspects of therapist qualities and work practices. As previously reported, motivation to develop, was significantly correlated with the reported amount of time spent on deliberate practice alone, which is targeted at improving one's performance. Similar to the 5000 therapists examined in Orlinsky and Ronnestad's (2005) study, about 81% of the therapists in Study II rated themselves as motivated to develop.

To date, this is the first study to investigate how the therapist professional development factors in Orlinsky and Ronnestad's (2005) study relate to client outcomes. Two recent studies revealed psychotherapists' experience of "difficulties in practice" was a significant



predictor of the working alliance and patient's interpersonal functioning (Nissen-Lie et al., 2010; Nissen-Lie, Monsen, Ulleberg, & Ronnestad, 2012). "Difficulties in practice" was factor analysed in their large sample of therapists ( $N = 68$  in Nissen-Lie et al., 2010;  $N = 70$  in Nissen-Lie et al., 2012), and it indicated two sub-factors, professional self-doubt (PSD) and negative personal reaction (NPD). It was found that PSD was a significant positive predictor on early working alliance (Nissen-Lie et al., 2010) and the interpersonal functioning of the clients (Nissen-Lie et al., 2012), while NPD showed negative effects on early alliance formation (Nissen-Lie et al., 2010).

Even though the number of clients in our study was large in Study II, our sample size of therapists was too small to conduct a factor analysis. Although both studies by Niseen-Lie and colleagues (Nissen-Lie et al., 2010; Nissen-Lie et al., 2012) contained a sample size of 68 to 70 therapists, the average number of clients seen by each therapist was small ( $N = 5$ ). Differences in the eight treatment sites were also indicated (Nissen-Lie et al., 2012), but were not adjusted for in the multilevel modeling. In our current study, treatment site was accounted for in the analyses (i.e., Level 3 of the GLMM). This enabled the analysis to more accurately attribute the variance to the therapist-level (Level 2 of the GLMM), after accounting for the differences in treatment site.

### **Self-Assessment Bias**

Study II indicates that therapists' perception of their professional development and the self-assessment of their own effectiveness did not predict client outcomes. Based on the therapists' self-reports, a majority of therapists viewed that they have improved across the years. On average, practitioners rated their current estimated effectiveness around the 71<sup>st</sup> percentile ( $SD = 17.38$ ). Half of the participants rated their current effectiveness as above average. None rated below average. Going further, the average practitioner rated the majority

of their clients as getting better during the course of treatment. None of the therapist viewed that less than 50% of their clients got better. Half of them rated more than 75% of their clients improving. On average, most therapists viewed that a minority of their clients stayed the same, got worse, and dropped out of treatment before experiencing any positive change. Interestingly, therapists in the second and third quartile rated somewhat similarly to the therapists in the top quartile, in terms of effectiveness. Nevertheless, the data suggests that more effective the therapist, the lower the predicted dropout rates in their caseload than their lesser effective counterparts. In other words, therapist in a given quartile group, are likely to be accurate in their account of the number of dropouts in their caseload, relative to their therapists in the other quartile groups. Therapists in this cohort might be able to accurately reflect their dropout rates because of the use of routine outcome monitoring system, which enables therapists to systematically track clients who are not experiencing benefit and do not return for treatment.

Extending from Walfish and colleagues (2012) investigation, participants in this study were also asked to retrospectively estimate their effectiveness in the first year of practice. Once again, the estimates from all of the seven items were not significantly associated with their adjusted outcomes. Even though the average clinician self-rated significant improvement from the first year of clinical practice to current for four out of the seven items (i.e., estimated effectiveness, got better, stayed the same, working alliance ability), the differences in all seven of the items were not significantly correlated with client outcomes. In other words, therapists in this sample who perceived themselves to have improved in their overall effectiveness across time, did not necessarily perform better than their peers. Since the outcome system utilised in this sample of practitioners does not have an annual or seasonal breakdown of their effectiveness level, we do not have a partitioned outcome dataset of their earlier and current years of clinical practice. Thus, it is unclear if therapists who

perceived themselves to have improved across time had corresponding with actual improvement in their aggregated client outcomes.

Moreover, in spite of the fact that the individual HGIPRN practitioners are aware of their own overall effectiveness (but not of their colleagues), these pattern of responses by the therapists suggest the potential of self-assessment bias (Kahneman, 2011), also coined as the “Lake Wobegon” effect (Kruger, 1999). In general, this thesis concurs with Walfish and colleagues’ (2012) findings. The poorer ratings of the overall current effectiveness of our study compared to Walfish et al. (2012), might be in part due to the fact that therapists in our sample used formal feedback measures to track their own outcomes, whereas there were no evidence of the practitioners in Walfish and colleagues’ (2012) study systematically monitoring their outcomes. Likewise, this might also explain the lower no-change rates (i.e., currently, stayed the same) and deterioration rates (i.e., currently, got worse) in our sample compared to Walfish and colleagues (2012) study.

The phenomena of self-assessment bias is not uncommon. Kahneman (2011) termed this as “the illusion of validity”, describing the fallacy of our judgments about our own abilities, especially without any feedback from external sources to confirm or disconfirm our intuitive responses. This pitfall is likely to be caused by a self-optimistic bias about an expert’s ability to forecast events and make decisions. For example, Kahneman (2011) found that experts making political judgments, stock traders, and financial advisors were not only inaccurate in their predictions, but also overly-confident in their judgments. Similar self-assessment biases have also been found with physicians (Davis et al., 2006).

Failure to detect clients at risk of deterioration can be potentially problematic. As highlighted in this literature review, Hannan and colleagues (2005) found that therapists under-predicted clients who are at-risk of treatment failures, and over-predicted improvement

rates. Therapists in our sample were also not immune to “the illusion of validity” when comparing to their peers, even though they had individual outcome information based on soliciting formal feedback from clients on a routine basis. Even though therapists in this study had access to their own outcomes information (e.g., magnitude of change), the reason for the inaccuracy of predicting their own effectiveness might be in part due to not utilising a normative comparison figure of their results against their peers (or average benchmarks) within their practice research network (PRN). This is only speculative, as further information about how outcome measures were utilised in this particular PRN was lacking.

### **Mindset**

Dweck’s mindset theory did not significantly predict therapists’ client outcomes. In addition, based on the Therapist Mindset Questionnaire (TMQ), which was adapted from Dweck’s mindset scale, the five sub-scales in the TMQ did not significantly predict client outcomes. These findings failed to support our hypothesis, and were not consistent with previous studies in other professional domains such as education (Blackwell et al., 2007; Grant & Dweck, 2003; Hong et al., 1999). In further investigations of the data, employing Dweck’s definition of a fixed mindset (overall 3.0 or below in the Fixed Mindset sub-scale), all but one therapist (ranked #22 out of 69 in Study I), indicated they subscribed to a growth mindset. Similar to the evidence of other self-assessment bias established earlier in this study, it is possible to infer that therapists’ perceptions of their own beliefs about their work practices and implicit theories of abilities are not predictive of their actual performance.

Only one of the TMQ’s sub-scale (growth mindset: beliefs about ability) was significantly correlated with Dweck’s growth mindset sub-scale. Further validation studies with a larger sample size of therapists need to be conducted with the TMQ in order to improve the validity and reliability of this measure.

## Limitations

**General.** Previous studies examining therapist effects have a range of sample sizes, from as large as 91 within a university counselling centre (Okiishi et al., 2003), to as small as nine therapists in a mental health clinic for male veterans (Luborsky et al., 1985). In the Vanderbilt psychotherapy studies comparing effective to less effective therapists (Najavits & Strupp, 1994), the researchers enlisted 16 therapists in their study. Even though there was a substantial amount of Level 1 units (1632 clients) in the GLMM of this thesis, one of the key limitations to study II is the small number of Level 2 units (i.e., therapists) in the sample. Granted that this is a first exploratory study on the effects of therapists' specific professional activities and its impact on outcomes, several therapist variables were analysed in this research, making it susceptible to TYPE I error. In order to address this concern, Bonferroni corrections were utilised in the various conceptual groupings.

Another limitation of this study is the lack of information about how the feedback mechanisms were actually utilised by therapists. It could be possible that therapists might have used the outcome scales solely as a measurement tool, rather than in a dynamic fashion to optimally incorporate within the therapy session.

This study has an inherent natural selection bias, with an over-representation of top performing therapists. For instance, 47% of the therapists were ranked in the top quartile of the full 69 therapist sample, 29.4% were from the second quartile, 17.6% were from the third quartile, and only 5.9% (i.e., one therapist) was from the bottom quartile. Not surprisingly, therapists in the least effective group were not keen to participate in this study. This obviously made meaningful comparisons with the bottom performing therapists impossible. Also, the homogeneity or restriction in range in terms of therapist effectiveness may have limited the statistical power of the analyses.

**Deliberate practice alone.** A limitation of this study was the use of retrospective methods in assessing the amount of time spent in a variety of therapy related activities. The validity of self-reported recall of related activities were debated upon in previous studies (e.g., Charness et al., 2005; Ericsson et al., 1993; Law et al., 2007). Unlike the studies conducted on sportsmen where validation of the data is permitted (e.g., interview of parents), due to the highly individualised nature of the practice of psychotherapy, this study did not allow the cross-validation with independent raters, other than those related to supervisory or mentorship roles. This raises questions about the accuracy of the reported time spent in the taxonomy of activities, as well as the reported time spent in solitary practice. Similar to Charness and colleagues' (2005) study of chess players, the researchers were also not able to ascertain the possibility of an over-estimation of the self-reported time spent on specific activities as well. In order to address this concern, the retrospective protocol of the questionnaire was thus designed to prime respondents to answer based on recall of past episodic experiences (Cote et al., 2005). A consideration for future research is to conduct a time-limited prospective study and track therapists' work related practices.

A prospective diary log of the estimated time spent on specific the taxonomy of activities was not used in this study. This was not feasible as time-estimates of the taxonomy were for the duration of one-month, rather than the one-week timeline used in Ericsson et al. (1993) and Starkes et al. (1996). The rationale for using one month time-estimate was due to fact that therapy related activities may not be as frequent as once a week (e.g., clinical supervision), especially for the more seasoned practitioners. Moreover, it was difficult to enlist respondents within the HGIPRN, as they were not from one organisation, but rather linked via a practice network of private practitioners, NHS, voluntary sector, and other agency settings across the United Kingdom.

Finally, it is unclear at this point if therapists were aware of the impact of the mediating effect of deliberate practice on their performance. Future research could employ the use of qualitative methods to explicate if this was either an explicit or implicit knowledge that motivates them to engage in effortful and focused practice, in order to get better at their clinical practice.

## **Conclusion**

Building upon the investigation of therapist variability in a practice research network (PRN) in Study I, a sub-sample of 17 therapists participated in an investigation of their professional development and work practices. Study II revealed a number of key findings. First, therapist demographical information (e.g., age range, gender, qualifications, profession, years of experience), level of integrative practice, and caseload, were not significant predictors of client outcomes.

Second, in testing the theory on deliberate practice (Ericsson, 1996; Ericsson, 2006a; Ericsson et al., 1993), the amount of time spent on an individual basis working towards improving therapeutic skills accounted for a significant proportion of the variability in client outcomes. Reported time spent on solitary practice was also correlated with motivation to develop. From a descriptive standpoint, the top quartile group of therapists invested about 1.78 times more time on deliberate practice alone than the second quartile group of therapist, 3.7 times more than the third quartile group, and the second quartile group spent about twice as much time as the third quartile group of therapists.

In terms of their relevance ratings of work related activities, “reviewing challenging cases alone”, “attending training workshops for specific models of therapy”, “mentally running through and reflecting on past sessions and preparing for future sessions”, “doing therapy”, and “reviewing and reflecting on cases with poor outcomes”, were rated as significantly more

relevant than the average ratings across all the activities. In terms of cognitive efforts, “clinical supervision as a supervisee (review of difficult/challenging cases and/or cases with nil improvement)”, and “attending training workshops for specific models of therapy” were rated as more relevant in effort than the average ratings across all the activities.

Third, investigating the use of feedback in psychotherapy, the amount of times therapists reported being surprised by clients’ feedback, accounted for a significant proportion of the variability in client outcomes. It is possible to hypothesise that therapists’ willingness to receive a variety of feedback, while conveying a sense of openness in therapeutic interactions with clients, may positively impact on client outcomes. Interestingly, being surprised by clients’ feedback was not rated as significantly relevant by therapists, whereas the informal approach of eliciting feedback about the session (without the use of a formal alliance measure), and the use of formal measures to compare and contrast their assessments with that of the clients, were rated as significantly relevant, compared to the average ratings.

Fourth, only the main factor Healing Involvement (HI) and its component scale Relational Manner: Affirming were significant predictors to client outcomes. Therapists who rate themselves as more nurturing, invested, and affirming in the psychotherapeutic process than their counterparts are more likely to obtain poorer client outcomes.

Fifth, the evidence suggests that therapists, like other professionals, are prone to a self-assessment bias (Kahneman, 2011; Kruger, 1999). Their ratings of effectiveness, in comparison with their peers, did not correlate with actual client outcomes. On average, therapist rated their current estimated effectiveness around the 71<sup>st</sup> percentile, and half of them rated above average. None rated below average.

Finally, preliminary investigation of therapist’s self-reported mindsets did not reveal any significant findings in relations with client outcomes.



## Chapter 13: General Discussion

### Implications

Consistent with past studies, based on Study I results, there was significant variability between therapists in terms of client outcomes, even after adjusting for the client's initial severity and the nesting of different treatment sites. Clearly, the ranking of therapists based on their adjusted client outcomes paints a consistent picture about the range of therapist effectiveness. When therapists were grouped into quartiles according to their aggregated performance, there were significant differences between the top quartile and the second, third, and fourth quartile, in terms of the proportion of clients reaching reliable improvement, reliable recovery, deterioration, and no-change rates. Study I provided the necessary platform for further examination of therapist characteristics and work practices that impact outcome in Study II, as it was limited in therapist information. Study II yielded useful implications in terms of work practices and the development of expertise in the domain of psychotherapy, particularly regarding the theory of deliberate practice in the development of expertise, the use of feedback in the field of psychotherapy, and the limitations of self-assessments. In two recent articles (Miller et al., 2013; Tracey et al., 2014), the authors proposed examining psychotherapy from the expert-performance paradigm. This include obtaining session-by-session quality feedback from systematic outcome measures, explicitly generating a priori disconfirmatory or alternative hypotheses and testing them out, followed by setting aside time for focused training activities and reflection outside of therapy. Further specific recommendations in relation to clinical practice, training, and future research are provided in this chapter.

**Recommendations for clinical practice.** In highlighting the possible reasons professionals do not spend more time in deliberate practice, aside from the lack of monetised time to practice, Ericsson (2009) points out

Most professionals - such as doctors, nurses, stockbrokers, and accountants - do not receive the constant pressure from performing in front of an audience of paying ticket holders, like actors, musicians, and athletes. The lack of scrutiny and perhaps feedback may be an important difference that explains why many doctors do not spontaneously adopt the best practice methods for treating their patients, and spend a rather modest amount of time engaged in deliberate practice and effortful training to improve and maintain their skills... The greatest obstacle for deliberate practice during work is the lack of immediate objective feedback. (p. 422)

There are two issues raised in Ericsson's (2009) comments: lack of time spent in deliberate practice and the lack of immediate feedback. Combining past knowledge on feedback systems used to improve client outcomes (Lambert & Shimokawa, 2011; Lambert et al., 2003; Miller & Duncan, 2004; Miller et al., 2006; Miller et al., 2005) and strategies to prevent deterioration for at-risk cases (Hannan et al., 2005; Simon, Lambert, Harris, Busath, & Vazquez, 2012), along with this current thesis findings relating to the impact of time spent in solitary practice on therapist performance, it is justifiable to recommend the use of available outcome (CORE-OM, OQ, ORS) and alliance (WAI, HAQ, SRS) measures to systematically monitor progress in routine clinical practice. This allows the information to be fed-back to the therapist-client dyad, providing real-time information about the progress and engagement of treatment (Brown & Jones, 2005; Sapyta et al., 2005). On the other hand, from an organisational perspective, relying solely on a given client's outcome and alliance ratings is unlikely to be a useful indicator of the therapist performance. This is due to the lack of reliability and it does not reflect the variety of types of clients seen within the clinical

practice. Rather, using reliable aggregated data about outcomes and alliance measures for each of their therapists, agencies would do well to identify low performing therapists and provide the necessary remediation for them (Imel et al., 2013). In addition, agencies and practitioners need to consider the implications of devoting time to engage in domain-specific forms of intentional practice. Although this investment has inherent costs (i.e., time away from seeing clients), this may positively impact the acquisition and maintenance of psychotherapeutic skills among the treatment providers, especially if the intentional practices are localised to the context of the specific treatment sites.

Even though analysed as individual predictors in the GLMM, the twin finding in this research of the impact of therapists engaging in solitary practice and openness to feedback is worth emphasising. The employment of feedback information is consistent with the theory of deliberate practice, and how deliberate practice mediates the development of expertise and expert performance (Ericsson, 1996; Ericsson, 2006a; Ericsson, 2009; Ericsson et al., 1993). Nonetheless, it is still not clear from the current evidence on what sustains motivation to engage in effortful and focused forms of practice.

It is not likely that the repeated effort of conducting therapy sessions will lead to new learning and improvement in clinical effectiveness. Robust evidence from the study of development of expert and expert performance indicate that it is not just engaging in skills acquisition at the early phase of our professional development that matters, but rather the continuous on-going investment of time and effort in domain-specific related practices to maintain and further develop the skills, is what impacts the development of expertise in a given profession. Clearly, as exemplified by past investigations (Beutler et al., 2004) and in this thesis, therapists' years of experience did not influence the performance on client outcomes. Despite the early gains of professional competencies in their careers, professionals tend to plateau in their development (Ericsson, 2009). In expanding the notion of deliberate

practice, Ericsson (2009) indicated that the key attribute is to “seek out challenges that go beyond their current level of reliable achievement - ideally in a safe and optimal learning context that allows immediate feedback and gradual refinement by repetition” (p. 425). In contrast to conventional wisdom that “practice makes perfect,” deliberate practice in the psychotherapy profession should be specifically targeted at working at specific domains based on outcome information (i.e., at-risk cases), creating social experiments in naturalistic settings to test, re-calibrate, and improve empathic accuracy (Sripada et al., 2011), enhancing environments for targeted learning of fundamental therapeutic skills (i.e., rehearsing difficult conversations) (Bjork & Bjork, 2011; Burns, 2009; Storm, Bjork, & Storm, 2010), using standardised patients’ (SPs) simulated case vignettes to improve interaction with clients (Issenberg et al., 1999; Issenberg et al., 2002; Issenberg et al., 2005; Ravitz et al., 2013), and setting aside time to reflect and plan ahead (Lemov, Woolway, & Yezzi, 2012; Miller & Hubble, 2011). Kottler and Jones (2003) provided other examples of improving clinical competency for beginning therapists and seasoned practitioners, such as structuring time to review session recordings/transcripts, self-supervision strategies, using feedback from prior mistakes as lessons, as well as applying goal-directed strategies similar to the field of sports psychology.

Cognitive science researchers make a distinction between deliberate practice activities and actual work activities (Ericsson, 2009; Ericsson et al., 1993). When applied to the field of psychotherapy, a distinction needs to be made between *deliberate practice* and *clinical practice*. Typically, when conducting a therapy session, the therapist is focused on delivering the best possible treatment and is attempting to fully engage with the client, while facilitating the necessary therapeutic conditions to promote change and growth for the client. As such, the therapist is not focused on improving some particular weakness or therapeutic skill. In the context of deliberate practice however, the therapist will be specifically investing their time

and effort to improve on a specific area designated by either themselves or in collaboration with their clinical supervisor/mentor, based on an assessment of their current skill-set, while challenging them to incrementally step beyond their zone of proximal development (Vygotsky, 1978). Nevertheless, this does not mean that the time invested in clinical practice is not important for improving and maintaining performance. Deliberate practice should be coupled with clinical practice and other forms of learning, such as activities related to peer consultation, clinical supervision, preparing for a session, acquiring new domain-specific knowledge for a case, and reflecting on past sessions.

**Recommendations for psychotherapy training.** The recommendations provided in the previous section may also apply to the education and training of psychotherapists. More specifically, several recommendations can be made based on the findings of this research. First, post-graduate programs in counselling, clinical psychology, counselling psychology and the like will do well to introduce and implement the use of outcome feedback systems in their practicum sites and clinical placements to routinely monitor treatment outcomes. Methods for enhancing learning and professional development can incorporate such information obtained from outcome data gathered over time, similar to the outcome information gathered by the practitioners in this study. Going further, as highlighted by the importance of openness to client feedback on client outcomes, trainers can go beyond teaching the use of formal outcome mechanisms and teach methods of eliciting specific and nuanced client feedback, while encouraging an open interpersonal stance towards receiving and using such valuable information to tailor the treatment approach. To date, there are no relevant studies that compares the efficacy of different training methods (Malouff, 2012). Future psychotherapy outcomes study can compare trainees who are taught in routine outcome monitoring, in comparison with trainees who are taught in the usual training standards of the institution.

Second, a recent study conducted in the United States by Budge and colleagues (2012) compared client outcomes among therapists with different levels of experience (beginning practicum, advanced practicum, intern/postdoc, and psychologist) found that interns/postdoc therapists achieved more significant changes than psychologists in relation to life-functioning and symptom reduction. It was postulated that the frequency of supervision might have contributed to the group difference (beginning and advanced practicum therapists, 1 hour of individual supervision/week; interns/postdoc therapists, 7-10 hours of individual and group supervision/week; psychologist, biweekly peer consultation), in terms of maintenance of competency levels. Supervisors for the beginning and advanced therapists, as well as the intern/postdoc were provided with ongoing feedback about their sessions via supervisors watching video recordings of the sessions, whereas the more experienced cohort (i.e., Psychologist) had a less structured and less intense supervisory context. As clinical supervision is viewed as an integral part of professional development in the field of psychotherapy (Orlinsky et al., 2001), the study by Budge and colleagues (2012) supports the findings of this thesis relating to the importance of setting aside time to engage in goal-directed, deliberate forms of practice. This is quintessential not just for the skills acquisition phase of professional development, but also, and perhaps more importantly, for the skill maintenance phase of development of expertise (Ericsson, 2004; Krampe & Charness, 2006; Krampe & Ericsson, 1996), so as to overcome “automaticity” in performance, and prevent an arrested development in clinical competencies (Ericsson, 1998). As indicated earlier, focusing on cases that are at-risk of deterioration, based on the information gathered from outcome data, is of particular relevance for trainees, as well as established therapists, in order to grow beyond their current level of expertise.

Third, psychotherapists at different stages of their professional development have different learning needs. Building on Binder’s (1999) declarative-procedural model, Bennett-

Levy (2006) suggested that novice therapists are more likely to benefit from gathering conceptual knowledge (e.g., reading, lectures, didactic supervision) and interpersonal skills (e.g., experiential training, role-play, feedback), whereas established or seasoned practitioners are more likely to benefit from more specific conceptual knowledge and reflective practices (e.g., reflective writing, reflective reading, self-reflection). It has also been posited that the highest form of clinical competence in the field of psychotherapy is related to the ability to improvise (Binder, 1999). Although other psychotherapy researchers have also echoed similar views on improvisation (e.g., Gilewski, 1996; Keeney, 1991; Kindler, 2010; Kindler & Gray, 2010; Madsen, 2011), further empirical studies need to investigate the impact of improvisational training, in respect to the practice of psychotherapy, gleaned from other professions, such as “improv acting” in the performing arts (Johnstone, 1979; Salinsky & Frances-White, 2008), and music (Bailey, 1993; Biasutti & Frezza, 2009; Mirvis, 1998; Wigram, 2004). Nonetheless, as mentioned previously, formal feedback systems are likely to be a critical component for enhancing treatment outcomes (e.g., Brown & Jones, 2005; Lambert, 2010; Lambert, Harmon, Slade, Whipple, & Hawkins, 2005; Lambert & Shimokawa, 2011; Lambert et al., 2002; Simon et al., 2012; Slade et al., 2008), as well as for informing therapists about specific areas for improvement in terms of clinical competences (Ericsson, 2004; Ericsson et al., 1993; Issenberg et al., 2005; McGaghie et al., 2006).

*Continuing Professional development.* In the psychotherapy profession, significant emphasis is placed on the need for continuing professional development (CPD) and continuing education (CE) (Neimeyer & Taylor, 2011). Self-reports of satisfaction ratings have also provided encouraging findings about the impact of such formal professional training (Neimeyer, Taylor, & Cox, 2012; Neimeyer, Taylor, & Wear, 2009). However, as Neimeyer and colleagues (2009) noted, “Although continuing education is generally recognized as a vital part of lifelong professional learning for psychologists, surprisingly

little is known about the impact of CE on professional practices, competencies, or outcomes” (p. 621). Evidently, there has been a lack of evidence in the correlations of therapists’ satisfaction ratings of CPD and CE activities and demonstrable outcomes, such as therapist effectiveness in their practice settings (Neimeyer & Taylor, 2011). In other professions, some forms of formal training are found to be more effective than others. For example, in the medical profession, compared to passive dissemination of information and didactic presentations, more interactive techniques in delivering continuing medical education (CME) training resulted in changes in physicians’ level of care and improvement in patient outcomes (Bloom, 2005). Perhaps in the field of psychotherapy, more evidence needs to be gathered on the differential impact of different modes of CPD training. Similar to Bloom’s (2005) finding, given the interpersonal nature of psychotherapy, it is possible to speculate that interactive modes of formal training are likely to translate to better professional competencies and client outcomes, compared to didactic forms of training. This can also be used in concert with audio-video recording of sessions by the practitioners, or even viewing “master” therapists demonstrating specific therapeutic behaviours, in order to facilitate learning targeted at specific factors for development (Norcross & VandenBos, 2011).

*Enhancing learning using desirable difficulties.* Bjork and Bjork (2011) differentiates between focusing on *learning* and focusing on *performing*. They highlight that a focus on performing a job may not necessarily translate to an increase in learning. Likewise, a focus on learning may not improve performance in the short-term. Nonetheless, giving attention to promoting learning may improve performance in the long-term. Using current performance as a measure of learning is susceptible to mis-assessing whether learning has or has not occurred (Bjork & Bjork, 2011). To this extent, Bjork (1994) has indicated some forms of intentional “desirable difficulties” that may enhance learning: (a) varying conditions of practice; (b) spacing the timing of learning materials; (c) interleaving or randomising practice versus block practice; and (d) use testing as learning, and not just for assessing.



Even though existing post-graduate programs may already include these forms of learning into their curriculum it is worth emphasising the applications of Bjork and colleagues' (Bjork & Bjork, 2011; Bjork, 1994) recommendations for enhancing learning in psychotherapy training: (a) varying the learning environment between classroom, therapy rooms with one-way mirrors, and practicum sites; (b) spacing of practice sessions across the teaching curriculum; (c) interleaving the teaching of various psychotherapy models and skills, as opposed to blocked, one psychotherapeutic approach at a time; and (d) as opposed to doing testing and conducting therapy sessions at the end of a term, administration of test materials and making provision for trainees to conduct interview or pseudo-therapy sessions with each other at the start of the course before any formal training is provided.

**Deliberate Practice in Psychotherapy.** Synthesising the previous discussion on recommendations for clinical practice and psychotherapy training based on this thesis's findings, it is noteworthy to further contemplate the implications of the working definition of "deliberate practice" within the context of psychotherapy. Deliberate practice was defined as individualised focused goal setting developed with a teacher/coach aimed at improving specific aspects of a trainee's skills, within an environment of feedback and successive refinement (Ericsson & Lehmann, 1996). Clearly, in professional domains such as sports, music, and chess, the aspects of deliberate practice are well defined. At this point, the field of psychotherapy has yet to clearly define these areas. Notwithstanding this limitation, perhaps the framework of clinical supervision may be able to provide the tailored learning objectives, feedback, and repetition that is required for focused, targeted and effortful practice to take place. First, the supervisor can assist in developing key aspects for the supervisee to work on in improving his/her psychotherapeutic skills. Second, not only can the supervisee use routine outcome monitoring measures to obtain systematic feedback from clients, he/she can also receive nuanced feedback from the supervisor regarding the targeted areas for development.

Researchers have advocated the complimentary use of audio-video recording of therapy sessions to aid the moment-by-moment focus of the session (e.g., Abbass, 2004). This enables both supervisor and supervisee to monitor the process of engagement between the client and therapist, thus providing a platform to review and guide areas of to work on for the supervisee. Finally, not only can the supervisor provide guidance and consultation “one client at a time,” the supervisor can also help design specific training activities in order to improve well defined areas of clinical skills “one therapist at a time.” Thus, the supervisee can engage in the prescribed activities on their own and attempt to generalise the learnings with other clients with similar presentations. Nevertheless, currently, a structured application of the concept of deliberate practice into the framework of clinical supervision in psychotherapy has yet to be empirically tested.

**Recommendations for future research.** Future studies in the area of investigating the impact of psychotherapists’ work practices and professional development would benefit from replicating this research with a larger sample size, in terms of the number of therapists (i.e., level 2 of the GLMM). Even though there were 69 therapists involved in the Study I, there was not enough therapist information for further examination of therapist predictors impacting client outcomes. Study II, which was a follow-up with more therapist details, had only 17 therapists who responded to the on-line survey. The sampling in Study II was still nevertheless able to capture a significant proportion of variability between-therapists, although there were more representatives from the top performing therapists. The number of clients within each therapist (i.e., level 1 of the GLMM) can be raised to 30 clients per therapist, so as to ensure greater reliability in terms of the measurement of therapist aggregated client outcomes (Seidel, Miller, & Chow, 2013). It would also be interesting to consider investigating the influence of such therapist factors constrained by specific treatment settings (e.g., hospital, agency-based, university counselling, private practice). In this

research, the type of treatment settings was accounted for by nesting settings as level 3 of the GLMM.

The use of global and symptom specific outcome measures is also recommended. In this study, only one global outcome measure was used. Similar to the seminal study by Howard et al. (1993) and follow-up studies on the phase model of psychotherapy (Budge et al., 2012; Stulz & Lutz, 2007; Swift, Callahan, Heath, Herbert, & Levine, 2010), the combined use of well-being, psychological symptoms, and life functioning measures may shed light on the specific role of therapists work practices, and their impact on the different aspects and phases of psychological treatment.

The current investigation was based on a retrospective study of therapist work practices and self-ratings of their perspective of professional development. Further investigations would ideally include a prospective study. Similar to Ericsson et al. (1993), it is recommended that the prospective study utilise a time-limited diary-log in order to track actual work practices and events in a typical work-week, coupled with collateral information from clinical supervisors on the time spent in specific professional activities. Future studies can also employ representative tasks or a “think-aloud” protocol (i.e., verbalisation of thought process based on a given scenario) to test the reproducibility of superior performance in a naturally occurring context of a given typical clinical setting (Ericsson & Simon, 1998). These tasks can be primarily setup to be challenging clinical situations (e.g., clients who present as highly reactive, angry, passive, or non-compliant to therapy), perhaps based on the types of clients that the therapist usually sees in their work setting. Similar representative tasks have been conducted on chess players, musicians, typists and soccer players. For example, chess players were asked to “think aloud” all the best possible moves for each of the chess positions (de Groot, 1978). It was found that the world-class players reliably found the best moves, whereas the skilled club players only found the best moves some of the time.

In follow-up studies (Charness et al., 1996; Charness et al., 2005), it was also found that the amount of solitary time spent in studying chess strategies was the best predictor of chess skill.

A similar study was conducted on therapists within a university counselling setting (Anderson et al., 2009). As highlighted in this literature review, therapists were presented with a variety of client-therapist interaction scenarios, and were asked to respond to the videos when it stopped. Therapists were measured in terms of their facilitative interpersonal skills (FIS) (Anderson et al., 2007), and these were found to be a significant predictor of their retrospective aggregated client outcome scores. As an extension to the FIS study (Anderson et al., 2007), a prospective intervention study can be employed using the same instrument with trainee psychotherapists, measuring them at baseline and re-measuring their FIS scores post-training. As an extension, it is also worth considering presenting challenging scenarios, and getting therapists to “think aloud” about the various ways of handling the situation therapeutically.

Finally, as highlighted in the previous section, future research can also test the effectiveness of applying the tenets of deliberate practice within the context of clinical supervision (i.e., targeted learning activities to improve aspects of performance identified with a supervisor, ongoing feedback from clients and supervisor, and repetition/successive refinement), and how it impact client outcomes.

## **Conclusion**

Despite the initial debate over the effectiveness of psychological therapies (Eysenck, 1952, 1964; 1952; Strupp, 1963, 1964), psychotherapy outcomes research has since established the effectiveness of psychotherapy (Lambert & Ogles, 2004; Miller et al., 2013; Smith et al., 1980; Wampold, 2001). Common factors across theoretical orientations deemed as crucial towards effective outcomes in psychotherapy have also been also identified (Asay

& Lambert, 2006; Duncan, 2010; Messer & Wampold, 2002; Rosenzweig, 1936; Sparks et al., 2008; Wampold, 2001, 2010; Wampold et al., 1997), although it has been pointed out that common factors cannot exist without the specific delivery of treatment interventions cogent to the therapist and client (Wampold & Budge, 2012). Rather than treating the individual therapist as a nuisance variable, since the pioneering research on studying effective therapists (i.e., Supershrinks) (Ricks, 1974), various researchers began to re-analyse clinical trials with the aim of estimating the proportion of variability in outcomes that is due to the therapist (Blatt et al., 1996; Crits-Christoph et al., 1991; Crits-Christoph & Mintz, 1991; Elkin et al., 2006b; Kim et al., 2006). Other studies based on naturalistic settings pursued the study of therapist effects as well, and similar findings ensued. The finding in this thesis with therapists from the HGIPRN is also consistent with past research.

Early psychotherapy researchers have previously emphasised the vital role of the therapist in the process of psychotherapeutic change (Bordin, 1979; Rogers, 1961). Clearly, therapists vary in their competency in engaging their clients and in mastery of their skills, although little is known about the therapist's qualities, work practices, and specific skills set that account for this difference in effectiveness between therapists. Concurring with past research, this thesis has indicated that therapist general traits, such as age, gender, experience, theoretical orientation, professional degree and types of training accounts for little of the variance in outcome among therapists (Beutler et al., 2004; Okiishi et al., 2003; Wampold & Brown, 2005), whereas therapist's facilitative interpersonal skills have been found to be a significant predictor to client outcomes (Anderson et al., 2009).

Although it is now evident that the therapist's psychotherapeutic interpersonal skills is crucial to client outcomes, less is known about how therapists develop and maintain these skills across time, and how the process of skills acquisition differs between therapists of different effectiveness levels. The preliminary findings of this thesis primarily point towards

the important function of time spent in solitary practice targeted at improving therapist's skills, as well as the crucial role of being open to clients' feedback. Incorporating the past and present knowledge of the field, further enquiry regarding the contributory factors on client outcomes, such as therapists' development, work practices, and forms of deliberate practices, is likely to further expand the horizons in terms of improving the future outcomes of psychotherapy.

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**APPENDICES**

## Appendix A

### Information Sheet

Greetings! My name is Daryl Chow, a PhD Psychology student at Curtin University of Technology. Based on the fact that you have been formally tracking the clinical outcomes of your work, you have been cordially invited to participate in a research study that will explore the **development and work activities of psychotherapists** in this field.

There are two phases of the research. In the first phase of the study, you will be asked to complete an online survey. These questions are based on two short-forms of David Orlinsky and Michael Ronnstad's (2005) survey package, the Development of Psychotherapists Common Core Questionnaire (DPCCQ). The short-forms are **Work Involvement Scales** and **Professional Development Scales**. The full version of the DPCCQ has been used across various practitioners of all career levels, professions, and theoretical orientations, across more than a dozen countries worldwide. The DPCCQ aims to study the therapeutic work experience as well as therapists' overall development. In addition, you will be asked additional questions to describe your work practices and activities that you engage in as a therapist.

As I am interested to learn more from your work experiences, in the second phase of the study, nine therapists will be randomly selected for a skype online video interview. This interview will be conducted to get a more detailed understanding of your current and past practices as a therapist. The interview will be audio/video recorded so as to aid transcription of the conversation at a later date. All recordings of the interview will be confidentially stored in a password secured external hard disk, and kept under lock and key in the University, and can only be accessed by the primary investigator and the supervisors. These will be retained for a period of five years following the conclusion of the study. Thereafter, the materials will be either be destroyed or deleted from any hard drives. Once again, participation is voluntary, and you may still choose to withdraw from the study at any time during the interview.

Based on trial administrations of this study, it is anticipated that the online survey would take between 1hr to 1hr 15mins to complete, and the interview section will take approximately 1hr – 1hr 30mins. As I acknowledge that this can be tedious due to its length, this study is the first of its kind, and we wish to make sure we capture as much as possible the critical aspects of your work practices. You may save your responses at any point of the online survey, and return to complete it at a later date.

Please click the following if you consent to participate in this research:

**Consent 1**            I hereby consent...

- 1) To complete this online survey.
- 2) For the primary researcher to access information about your overall outcomes and alliance results, with the assurance of anonymity (codes will be used, instead of names).

**Consent 2**            I hereby consent....

- 1) To be part of the random selection of being interviewed after the completion of the online survey (note: You would need to tick Consent 1 as well).

Participation is voluntary, and you may choose to withdraw at any time prior to submitting your completed survey.



Anonymity:

To protect your anonymity, email addresses and answers to the surveys will be stored separately so that there will be no way of linking your email address to your survey responses. All participants will be given a three-digit code and that will be used to identify your data.

In addition, for the randomly selected therapists for the second phase interview, the interviewer will initially be blind to your outcome data that your agency has provided for an aggregated analysis.

As a token of appreciation for your efforts, you will have the option of entering your email address at the end of the survey to stand a good chance to win one of twenty **\$50 Amazon vouchers**. The nine therapists who participate in the interview will automatically receive the gift voucher.

A link of the survey can be found at the Curtin University School of Psychology homepage:

[link will be inserted here]

Further Information:

Do not hesitate to contact one of the following if you have any queries:

Daryl Chow (Primary Investigator and Doctoral Student): [daryl.chow@postgrad.curtin.edu.au](mailto:daryl.chow@postgrad.curtin.edu.au)

Dr. Jenny Thornton (Supervisor): [J.Thornton@curtin.edu.au](mailto:J.Thornton@curtin.edu.au)

Dr Jan Grant (Co-Supervisor): [J.Grant@exchange.curtin.edu.au](mailto:J.Grant@exchange.curtin.edu.au)

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Dr Scott Miller (External Associate-Supervisor): [scottdmiller@talkingcure.com](mailto:scottdmiller@talkingcure.com)

*This study has been approved by the Curtin University Human Research Ethics Committee (**Approval Number HR 80/2011**). The Committee is comprised of members of the public, academics, lawyers, doctors and pastoral carers. Its main role is to protect participants. If needed, verification of approval can be obtained either by writing to the Curtin University Human Research Ethics Committee, c/- Office of Research and Development, Curtin University, GPO Box U1987, Perth, 6845 or by telephoning 9266 2784 or by emailing [hrec@curtin.edu.au](mailto:hrec@curtin.edu.au)*

**Appendix B**  
**Clinical Outcomes in Routine Evaluation – 10 (Short Form)**

**CLINICAL  
 OUTCOMES in  
 ROUTINE  
 EVALUATION**

**CORE-10  
 Screening  
 Measure**

Site ID	<input type="text"/>	<b>Stage Completed</b>
Client ID	<input type="text"/>	S Screening
<small>letters only</small>	<small>numbers only</small>	R Referral
Sub codes	<input type="text"/>	A Assessment
<small>Therapist ID</small>	<small>numbers only (1)</small>	F First Therapy Session
		P Pre-therapy (unspecified)
Date form given	<input type="text"/>	D During Therapy
<small>D D M M Y Y Y Y</small>		L Last therapy session
		X Follow up 1
Gender	<input type="checkbox"/>	Y Follow up 2
<input type="checkbox"/> Male	Age	
<input type="checkbox"/> Female	<input type="text"/>	

**IMPORTANT - PLEASE READ THIS FIRST**  
 This form has 10 statements about how you have been OVER THE LAST WEEK.  
 Please read each statement and think how often you felt that way last week.  
 Then tick the box which is closest to this.  
*Please use a dark pen (not pencil) and tick clearly within the boxes.*

Over the last week...	Not at all	Only occasionally	Sometimes	Often	Most or all of the time
1 I have felt tense, anxious or nervous	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
2 I have felt I have someone to turn to for support when needed	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
3 I have felt able to cope when things go wrong	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
4 Talking to people has felt too much for me	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
5 I have felt panic or terror	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
6 I have made plans to end my life	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
7 I have had difficulty getting to sleep or staying asleep	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
8 I have felt despairing or hopeless	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
9 I have felt unhappy	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
10 Unwanted images or memories have been distressing me	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
<b>Total (Clinical Score*)</b>	<input type="text"/>				

\* Procedure: Add together the item scores, then divide by the number of questions completed to get the mean score, then multiply by 10 to get the Clinical Score.  
 Quick method for the CORE-10 (if all items completed): Add together the item scores to get the Clinical Score.

**Thank you for your time in completing this questionnaire**



## APPENDIX C Psychotherapists' Work Involvement & Professional Development Scales

### PSYCHOTHERAPISTS' WORK INVOLVEMENT SCALES

Identification Code: \_\_\_\_\_

Date: \_\_\_\_\_

- |  |   |
|--|---|
|  | <b>[0 = None ..... 5 = Total]</b>         |
| 1. How much satisfaction do you currently find in your work as a therapist?                          | 0 1 2 3 4 5                               |
| 2. How much dissatisfaction do you currently feel in your work as a therapist?                       | 0 1 2 3 4 5                               |
| Overall, at the present time ...   | <b>[0 = Not at all ... 5 = Very much]</b> |
| 3. How effective are you at engaging patients in a working alliance?                                 | 0 1 2 3 4 5                               |
| 4. How natural (authentically personal) do you feel while working with patients?                     | 0 1 2 3 4 5                               |
| 5. How empathic are you in relating to patients with whom you have relatively little in common?      | 0 1 2 3 4 5                               |
| 6. How effective are you in communicating your understanding and concern to patients?                | 0 1 2 3 4 5                               |
| Currently, how would you describe yourself as a therapist—your actual style or manner with patients? |   |
| <b>[0 = Not at all ... 3 = Very much]</b>  | <b>[0 = Not at all ... 3 = Very much]</b> |
| 7. Accepting   | 0 1 2 3                                   |
| 8. Committed   | 0 1 2 3                                   |
| 9. Detached  | 0 1 2 3                                   |
| 10. Effective  | 0 1 2 3                                   |
| 11. Friendly   | 0 1 2 3                                   |
| 12. Guarded  | 0 1 2 3                                   |
| 13. Intuitive  | 0 1 2 3                                   |
| 14. Involved   | 0 1 2 3                                   |
| 15. Organized  | 0 1 2 3                                   |
| 16. Reserved   | 0 1 2 3                                   |
| 17. Skillful   | 0 1 2 3                                   |
| 18. Subtle   | 0 1 2 3                                   |
| 19. Tolerant   | 0 1 2 3                                   |
| 20. Warm   | 0 1 2 3                                   |

- |  |  |
|--|--|
| Currently, how often do you feel . . .   | <b>[0 = Never .... 5 = Very often]</b> |
| 21. Unsure how best to deal effectively with a patient?  | 0 1 2 3 4 5                            |
| 22. Lacking in confidence that you can have a beneficial effect on a patient?                          | 0 1 2 3 4 5                            |
| 23. Unable to have much real empathy for a patient's experiences?                                      | 0 1 2 3 4 5                            |
| 24. Demoralized by your inability to find ways to help a patient?                                      | 0 1 2 3 4 5                            |
| 25. Unable to withstand a patient's emotional neediness?   | 0 1 2 3 4 5                            |
| 26. Distressed by your powerlessness to affect a patient's tragic life situation?                      | 0 1 2 3 4 5                            |
| 27. Unable to generate sufficient momentum to move therapy with a patient in a constructive direction? | 0 1 2 3 4 5                            |
| 28. Conflicted about how to reconcile obligations to a patient and equivalent obligations to others?   | 0 1 2 3 4 5                            |
| When encountering <i>difficulties</i> in therapy, how often do you . . . ?                             | <b>[0 = Never .... 5 = Very often]</b> |
| 29. Review privately with yourself how the problem has arisen.   | 0 1 2 3 4 5                            |
| 30. Seek some form of alternative satisfaction away from therapy.                                      | 0 1 2 3 4 5                            |
| 31. Try to see the problem from a different perspective.   | 0 1 2 3 4 5                            |
| 32. Simply hope that things will improve eventually.   | 0 1 2 3 4 5                            |
| 33. Consult about the case with a more experienced therapist.  | 0 1 2 3 4 5                            |
| 34. Discuss the problem with a colleague.  | 0 1 2 3 4 5                            |
| 35. See whether you and your patient can together deal with the difficulty.                            | 0 1 2 3 4 5                            |
| 36. Seriously consider terminating therapy.  | 0 1 2 3 4 5                            |
| 37. Avoid dealing with the problem for the present.  | 0 1 2 3 4 5                            |
| 38. Show your frustration to the patient.  | 0 1 2 3 4 5                            |
| 39. Criticize a patient for causing you trouble.   | 0 1 2 3 4 5                            |
| 40. Just give yourself permission to experience difficult or disturbing feelings.                      | 0 1 2 3 4 5                            |

Recently in sessions with patients, how often have you found yourself feeling . . .

	[0 = Not at all ... 3 = Very often]					[0 = Not at all ... 3 = Very often]			
41. Absent	0	1	2	3	47. Inattentive	0	1	2	3
42. Anxious	0	1	2	3	48. Inspired	0	1	2	3
43. Bored	0	1	2	3	49. Overwhelmed	0	1	2	3
44. Challenged	0	1	2	3	50. Pressured	0	1	2	3
45. Drowsy	0	1	2	3	51. Stimulated	0	1	2	3
46. Engrossed	0	1	2	3	52. Trapped	0	1	2	3

**Scoring Key for Healing Involvement (HEAL: range 0 to 15)**

$$\text{HEAL} = [( \text{Items } 7 + 8 + 10 + 11 + 13 + 14 + 15 + 17 + 18 + 19 + 20 + 44 + 46 + 48 + 51 ) \times 5] + [( \text{Items } 3 + 4 + 5 + 6 + 29 + 31 + 33 + 34 + 35 + 40 ) \times 3] / 25.$$

*Component Scales*

Current Therapeutic Skills: **Basic Relational Skills** (Items 3, 4, 5, 6;  $\alpha = .79$ )

Relational Agency: **Invested** (Items 8, 13, 14;  $\alpha = .67$ )

Relational Agency: **Efficacy** (Items 10, 15, 17, 18;  $\alpha = .59$ )

Relational Manner: **Affirming** (Items 7, 11, 19, 20;  $\alpha = .69$ )

In-Session Feelings: **Flow** (Items 44, 46, 48, 51;  $\alpha = .62$ )

Coping Strategies: **Constructive Coping** (Items 29, 31, 33, 34, 35, 40;  $\alpha = .67$ )

**Scoring Key for Stressful Involvement (STRESS: range 0 to 15)**

$$\text{STRESS} = [( \text{Items } 41 + 42 + 43 + 45 + 47 + 49 + 50 + 52 ) \times 5] + [( \text{Items } 21 + 22 + 23 + 24 + 25 + 26 + 27 + 28 + 30 + 32 + 36 + 37 + 38 + 39 ) \times 3] / 22.$$

*Component Scales*

Difficulties in Practice: **Frequent Difficulties** (Items 21, 22, 23, 24, 25, 26, 27, 28;  $\alpha = .81$ )

In-Session Feelings: **Boredom** (Items 41, 43, 45, 47;  $\alpha = .66$ )

In-Session Feelings: **Anxiety** (Items 42, 49, 50, 52;  $\alpha = .74$ )

Coping Strategies: **Avoidant Coping** (Items 30, 32, 36, 37, 38, 39;  $\alpha = .64$ )

**Scoring Key for Net Work Satisfaction–Dissatisfaction (WORKSAT: range +5 to –5)**

$$\text{WORKSAT} = [\text{Item } 1 - \text{Item } 2].$$

PSYCHOTHERAPISTS' PROFESSIONAL DEVELOPMENT SCALES

Identification Code: \_\_\_\_\_

Date: \_\_\_\_\_

1. How long is it since you first began to practice psychotherapy? \_\_\_\_\_ years \_\_\_\_\_ months  
 [Count practice during and after training but exclude periods when you did not practice.]

- Since you began working as a therapist ... [0 = Not at all ... 5 = Very much]
- |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|
| 2. How much have you changed overall as a therapist?                          | 0 | 1 | 2 | 3 | 4 | 5 |
| 3. How much do you regard this overall change as progress or improvement?     | 0 | 1 | 2 | 3 | 4 | 5 |
| 4. How much have you succeeded in overcoming past limitations as a therapist? | 0 | 1 | 2 | 3 | 4 | 5 |
| 5. How much have you realized your full potential as a therapist?             | 0 | 1 | 2 | 3 | 4 | 5 |

- Overall, at the *present* time ... [0 = Not at all ... 5 = Very much]
- |  |   |   |   |   |   |   |
|--|---|---|---|---|---|---|
| 6. How much mastery do you have of the techniques and strategies involved in practicing therapy? | 0 | 1 | 2 | 3 | 4 | 5 |
| 7. How well do you understand what happens moment-by-moment during therapy sessions?             | 0 | 1 | 2 | 3 | 4 | 5 |
| 8. How well are you able to detect and deal with your patients' emotional reactions to you?      | 0 | 1 | 2 | 3 | 4 | 5 |
| 9. How good are you at making constructive use of your personal reactions to patients?           | 0 | 1 | 2 | 3 | 4 | 5 |
| 10. How much precision, subtlety and finesse have you attained in your therapeutic work?         | 0 | 1 | 2 | 3 | 4 | 5 |
| 11. How capable do you feel to guide the development of other therapists?                        | 0 | 1 | 2 | 3 | 4 | 5 |

- In your *recent* psychotherapeutic work, how much ... [0 = Not at all ..... 5 = Very much]
- |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|
| 12. Do you feel you are changing as a therapist?                      | 0 | 1 | 2 | 3 | 4 | 5 |
| 13. Does this change feel like progress or improvement?               | 0 | 1 | 2 | 3 | 4 | 5 |
| 14. Does this change feel like decline or impairment?                 | 0 | 1 | 2 | 3 | 4 | 5 |
| 15. Do you feel you are overcoming past limitations as a therapist?   | 0 | 1 | 2 | 3 | 4 | 5 |
| 16. Do you feel you are becoming more skillful in practicing therapy? | 0 | 1 | 2 | 3 | 4 | 5 |
| 17. Do you feel you are deepening your understanding of therapy?      | 0 | 1 | 2 | 3 | 4 | 5 |
| 18. Do you feel a growing sense of enthusiasm about doing therapy?    | 0 | 1 | 2 | 3 | 4 | 5 |
| 19. Do you feel you are becoming disillusioned about therapy?         | 0 | 1 | 2 | 3 | 4 | 5 |
| 20. Do you feel you are losing your capacity to respond empathically? | 0 | 1 | 2 | 3 | 4 | 5 |
| 21. Do you feel your performance is becoming mainly routine?          | 0 | 1 | 2 | 3 | 4 | 5 |
| 22. How important to you is your further development as a therapist?  | 0 | 1 | 2 | 3 | 4 | 5 |

SCORING KEYS:

**Scoring Key for Overall Career Development (CARDEV: range 0 to 5)**  
 CARDEV = (Items 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 + 11) / 10.  
 $\alpha = .88$

**Scoring Key for Currently Experienced Growth (CEGAIN: range 0 to 5)**  
 CEGAIN = (Items 12 + 13 + 15 + 16 + 17 + 18) / 6  
 $\alpha = .86$

**Currently Experienced Depletion (CELOSS: range 0 to 5)**  
 CELOSS = (Items 13 + 18 + 19 + 20) / 4  
 $\alpha = .69$

**Motivation to Develop = Item 22 (range 0 to 5)**

## Appendix D

### The Retrospective Protocol of Psychotherapists' Engagement in Deliberate Practice

*Link to the online version of this protocol on Qualtrics:*

[http://curtin.qualtrics.com/SE/?SID=SV\\_0V2KNnoaAvIP9Tm](http://curtin.qualtrics.com/SE/?SID=SV_0V2KNnoaAvIP9Tm)

#### **OVERVIEW:**

- A. PROFESSIONAL IDENTITY
- B. DEVELOPMENT
- C. MINDSET
- D. SELF-ASSESSMENT
- E. LIST OF DOMAIN RELATED ACTIVITIES
- F. THE USE OF FEEDBACK

**Introduction:**

Thank you for agreeing to participate in this research study. Please follow the instructions for each of the sections. Click on the **most appropriate answers**, and complete the open-ended questions.

As some answers are difficult to recall, you may provide you **best estimate**. You may choose to save your responses by clicking on the **NEXT PAGE** button at the bottom, and then exiting this webpage at any point of the online survey, and return to complete it **NO LATER THAN ONE MONTH'S TIME** (i.e., from the date of the first entry), **using the SAME computer**. The percentage completed is listed at the bottom of each page.

Finally, please note that at the end of this survey, you will be asked to consent to be part of a random selection for being interviewed. As a small token of appreciation, all selected participants for the interview will receive a \$50 Amazon voucher.

*Note: If you wish to continue your responses **from a different computer**, kindly email [daryl.chow@postgrad.curtin.edu.au](mailto:daryl.chow@postgrad.curtin.edu.au) , and you will be provided a specific URL to complete your answers.*

**A. PROFESSIONAL IDENTITY**

**Age Range:**

- 25 or under
- 26 to 40
- 41 to 55
- 56 to 60
- 61 or older

**Gender**

- Male  Female

**Profession:**

- Counsellor
- Psychotherapist
- Social Worker
- Counselling Psychologist
- Clinical Psychologist
- Educational Psychologist
- Health Psychologist
- Psychoanalyst
- Psychiatrist
- Physician
- Nurse
- Occupational Therapist
- Minister
- Others (please specify)  \_\_\_\_\_

**Academic Qualifications:**

- Diploma
- Bachelor
- Grad Diploma
- Post Grad Diploma
- Masters Degree
- PhD/Doctorate
- Others (please specify)  \_\_\_\_\_



**Current Theoretical Orientation**

How much is your current therapeutic practice guided by each of the following theoretical frameworks? Please tick the boxes appropriately.

Theoretical Orientation	Not at all	Little	Some	Moderately	Greatly	Very greatly
Analytic/Psychodynamic						
Behavioural						
Cognitive						
Humanistic/Person-Centered						
Existential						
Interpersonal						
Family/Systems Theory						
Experiential						
Somatic						
Expressive						
Transpersonal						
Other (please specify):						
Other (please specify):						
Other (please specify):						

**To what extent do you regard your orientation as eclectic or integrative?**

Not at all  Little  Some  Moderately  Greatly  Very Greatly

**TRAINING & SUPERVISION**

**Specialisation**

1. Do you consider yourself a specialist in working with particular problem types or diagnostic groupings?

Yes  No

2. IF YES, Please describe the main problem types or diagnostic groupings:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

3. Are you currently undertaking training in a specific type of psychotherapy/counselling?

Yes  No

4. Please state what specific type of psychotherapy/counselling

\_\_\_\_\_.

5. Please state the duration of this training so far

in Years and Months: \_\_\_\_\_

6. Please state the value of the above therapy training to your current practice:

Not at all  Little  Some  Moderately  Greatly  Very  
Greatly

**Supervision**

1. Are you currently receiving regular supervision for any of your therapy cases?

Yes  No

2. IF YES, please say for how many cases? \_\_\_\_\_ (No. of cases)

3. In the last 12 months, how many hours of supervision have you received in total for any of your therapy cases? \_\_\_\_\_ hrs

4. How satisfied are you with your current supervision?

Very dissatisfied   
Moderately dissatisfied   
Neither satisfied nor dissatisfied   
Moderately satisfied   
Very satisfied

**B. DEVELOPMENT**

**General Development**

Instructions: Using the scale below, please indicate the extent to which you agree or disagree with each of the following statements by indicating from **1-5 (1= strongly disagree and 5=strongly agree)** that corresponds to your opinion in the space next to each statement.

- |  |  |  |
|--|--|--|
|  | (1= strongly disagree and<br>5=strongly agree) |  |
| 1. I have improved as a therapist across the years.  | 1-----2-----3-----4-----5                      |  |
| 2. At times, I worry about losing my edge as a therapist.  | 1-----2-----3-----4-----5                      |  |
| 3. I push myself beyond my comfort zone<br>(e.g., see different clients, trying new techniques,<br>reading materials or attending workshops outside of<br>my dominant theoretical view). | 1-----2-----3-----4-----5                      |  |
| 4. I am content with my current level of skill as a therapist.   | 1-----2-----3-----4-----5                      |  |
| 5. I encounter setbacks.   | 1-----2-----3-----4-----5                      |  |
| 6. I am discouraged by setbacks.   | 1-----2-----3-----4-----5                      |  |
| 7. I fear that my development as a therapist will stagnate<br>if I do not work at it.  | 1-----2-----3-----4-----5                      |  |

I am interested in how relevant you consider various therapy activities listed below with respect to improving your current therapy skills. Please start by reading through all activities. Subsequently, mark a value between 1 (not at all relevant) and 7 (highly relevant) depending on how relevant for improving your current skills as a therapist you consider a given activity:

- |   |  |  |
|---|--|--|
|   | (1 = not at all relevant and 7 = highly<br>relevant) |  |
| a. Doing therapy  | 1-----2-----3-----4-----5-----6-----7                |  |
| b. Watching better therapists at work   | 1-----2-----3-----4-----5-----6-----7                |  |
| c. Attending training/workshops on<br>psychotherapy                                       | 1-----2-----3-----4-----5-----6-----7                |  |
| d. Practicing therapeutic conversations<br>outside of therapy<br>(e.g., role plays, etc.) | 1-----2-----3-----4-----5-----6-----7                |  |
| e. Reviewing and reflecting on cases<br>with <b>poor</b> outcomes.                        | 1-----2-----3-----4-----5-----6-----7                |  |
| f. Reviewing and reflecting on cases<br>with <b>good</b> outcomes.                        | 1-----2-----3-----4-----5-----6-----7                |  |

### C. MINDSET

**Instructions:**

This section has been designed to investigate ideas about therapists' ability and effectiveness. There are no right or wrong answers. We are interested in your ideas.

Using the scale below, please indicate the extent to which you agree or disagree with each of the following statements by clicking on the selection that corresponds to your opinion in the space next to each statement.

No.	ITEMS	Strongly Agree	Agree	Mostly Agree	Mostly Disagree	Disagree	Strongly Disagree
1	You have a certain amount of ability as a therapist, and you really do much to change it.						
2	Your ability as a therapist is something about you that you can't change very much.						
3	No matter who you are, you can significantly change your ability level as a therapist.						
4	To be honest, you can't really change how effective you are.						
5	You can always substantially change how effective you are as a therapist.						
6	You can learn new things, but you can't really change your basic ability as a therapist.						
7	No matter how effective you are as a therapist, you can always change it quite a bit.						
8	You can change even your basic ability level as a Therapist considerably.						

Instructions

This questionnaire below has been designed to investigate your ideas about being a therapist. There are no right or wrong answers. We are interested in your personal opinion.

Using the scale below, please indicate the extent to which you agree or disagree with each of the following statements by **ticking one of the 4 boxes in each item** that corresponds to your opinion in the space next to each statement.

(NOTE: The scaling is in a *different order* from the previous set of questions)

No.	ITEMS	Completely Disagree	Generally Disagree	Neutral	Generally Agree	Completely Agree
1	Some people are just natural healers.					
2	Some therapists are more innately talented/gifted than others.					
3	You can substantially change how effective you are as a therapist.					
4	I am content with my ability as a therapist.					
5	You are born with a certain therapeutic temperament, and you can't do much to change it.					
6	Naturally social people make better therapists.					
7	You can improve your emotional intelligence.					
8	There are some clients that no therapist can help.					
9	I can predict the outcome of a patient largely based on a client diagnosis.					
10	You can learn new theories and techniques, but you can't really change your basic effectiveness as a therapist.					
11	My level of effectiveness is not likely to change much over time.					

No.	ITEMS	Completely Disagree	Generally Disagree	Neutral	Generally Agree	Completely Agree
12	I ask colleagues to watch and critique my work					
13	I frequently feel challenged as a therapist.					
14	I really enjoy the challenge of difficult clinical situations where I need to work out new solutions through trial and error.					
15	Challenging cases wear me out.					
16	I generally feel it's best to refer difficult cases to a more competent or senior clinician.					
17	I learn a great deal from my successful cases as a therapist.					
18	I feel very insecure when I encounter a clinical problem that I don't know how to solve.					
<i>In my experience, the cause of treatment failure is due to....</i>						
19	Lack of therapist skills.					
20	Lack of supervision/mentoring.					
21	Client not ready and/or unwilling for change.					
22	External circumstances frequently prevent my clients from achieving the best results possible.					
23	I find the clients making progress the most interesting.					
24	I believe that being an empathic and creative therapist comes naturally and can't be forced by working hard.					
25	Highly effective therapists work harder than the average therapist.					
26	Success as a therapist is a skill that can be developed through practice.					

No.	ITEMS	Completely Disagree	Generally Disagree	Neutral	Generally Agree	Completely Agree
27	No matter how good you are, you will always improve if you work at it.					
28	To be successful as a therapist, you need to learn techniques and skills and practice them regularly.					
29	I work harder on cases that evince little or no signs of improvement.					
30	I work the hardest with clients who are responsive and/or improving with therapy session.					
31	Compared to others therapists I know, I work harder on developing my skills as a therapist.					
32	I know what I need to work on in order to improve my ability as a therapist.					
33	I tape (video/audio) and review my sessions.					
34	I am still working to improve my core counselling skills (relational skills, empathy, respect, listening, etc.).					
35	Honestly, I feel hurt by negative feedback I get from clients.					
36	Most of the time, the feedback I get from clients generally is not helpful in guiding the course of services.					
37	I find critical feedback from clients very helpful in my development.					
38	The idea of sharing my overall effectiveness rate with others makes me uncomfortable.					
39	Privately, I feel threatened by the clinical success of my colleagues.					
40	I learn from and inspired by the success of my colleagues in their clinical work.					
41	I do not find it useful to compare my effectiveness with others.					
42	I try to emulate superior performing clinicians I know.					

**D. SELF-ASSESSMENT**

Instructions: Please complete the following questions. You need not refer to your actual outcome results. Simply **provide your best estimates**.

**Past**

1. How many clients did you have in your **first year of practice**? (This includes your time during internship/practicum/licenseship/residency). Please select one of the following ranges: **5-15, 16-30, 31-45, 46-60, 61-75, or >75**) \_\_\_\_\_
  
2. In your first year of practice, how many other therapists did you work with closely (i.e., knew how their clients developed during psychotherapy)?  
No. of therapists worked with: \_\_\_\_\_
  
3. Compared to other mental health professionals within your field (with similar credentials), how would you rate your effectiveness **when you first started (i.e., first year of practice)** in terms of a percentile (0-100%, e.g., 25% = below average, 50% = average, 75% = above average)? \_\_\_\_\_ %
  
4. During the first year of practice, how many of your clients...  
 Got Better: \_\_\_\_\_ % (i.e., experienced significant symptom reduction)  
 Stayed the Same: \_\_\_\_\_ %  
 Got Worst: \_\_\_\_\_ %  
 Dropped Out: \_\_\_\_\_ % (i.e., stopped therapy before experiencing positive change)  
 Cannot judge: \_\_\_\_\_ %
  
5. Compared to other mental health professionals, how would you rate your ability to form a good **working alliance** in therapy with a variety of clients **during the first year of practice**? [Percentile] \_\_\_\_\_ %

**Current**

1. Compared to other mental health professionals within your field (with similar credentials), how would you rate your **current** level of effectiveness in terms of a percentile (0-100%, e.g., 25% = below average, 50% = average, 75% = above average)? [Percentile]  
  
Current level of effectiveness: \_\_\_\_\_ %
  
2. Currently, how many of your clients...  
 Got Better: \_\_\_\_\_ % (i.e., experienced significant symptom reduction)  
 Stayed the Same: \_\_\_\_\_ %  
 Got Worst: \_\_\_\_\_ %  
 Dropped Out: \_\_\_\_\_ % (i.e., stopped therapy before experiencing positive change)  
 Cannot Judge: \_\_\_\_\_ %
  
3. Compared to other mental health professionals, how would you rate your **current** ability to form a good **working alliance** in therapy with a variety of clients? (0-100%, e.g., 25% = below average, 50% = average, 75% = above average)? \_\_\_\_\_ %



**E. LIST OF DOMAIN RELATED ACTIVITIES**

**INSTRUCTIONS:** I would like you to think back over the last month of your work as a therapist.

[Note: Check if the last month is a typical work month. If not, recall the previous typical work month]

Please rate the activities below that you feel contribute to the **development and improvement** of your role as a therapist.

Please indicate

- a. The **amount of time** (hours) spent. You may use fractions (“#/# hour”) or decimals (“#. # hours”) to report partial hours, and you may also use ranges of times (“# to # hours”) if you cannot remember the exact duration of an activity.
- b. Your level of **confidence** in the accuracy of your time estimates on a scale from *0 (not at all confident in my time estimate) to 10 (highly confident in my time estimate)*;
- c. The **relevance** of following activities in **improving** your outcomes with your clients on a scale from *0 (not at all relevant) to 10 (highly relevant)*;
- d. The level of mental/cognitive **effort** that you typically exert when you do the following activities on a scale from *0 (no effort exerted at all) to 10 (highest possible effort exerted)*.

In the table below, please indicate **0** in the Time columns if you did not engage in a particular activity in the **last week**, **but still rate the level of relevance and the predicted level of effort required for the activity.**

<b>Activities</b>	<b>a. Time (hrs)</b>	<b>b. Confidence Ratings (0-10)</b>	<b>c. Relevance (0-10)</b>	<b>d. Cognitive Effort (0-10)</b>
<i>For example: Conducting individual therapy</i>	<i>64hrs</i>	<i>8</i>	<i>7</i>	<i>9</i>
General clinical supervision (without review of Audio/Visual recordings of sessions).				
Clinical Supervision (with review of Audio/Visual recordings of sessions).				
Clinical Supervision (review of difficult/challenging cases and/or cases with nil improvement).				
Reading of journals pertaining to psychotherapy and counselling.				
Reading materials of specific models/techniques.				
Reading/Re-reading of core counselling and				

therapeutic skills in psychotherapy.				
Reviewing therapy recordings alone.				
Reviewing of therapy recordings with peers.				
Reviewing difficult/challenging cases alone.				
Reviewing cases with no improvement/ deterioration.				
Attending training workshops for specific models of therapy.				
Mentally running through and reflecting on the past sessions in your mind.				
Mentally running through and reflecting on what to do in future sessions.				
Case discussion/ conceptualisation/ formulation with a mentor/clinical supervisor.				
Case discussion/ conceptualisation/ formulation with peers.				
Live supervision provided during sessions (e.g. supervisor as co-therapist, one-way mirror/reflecting team, etc.).				
Viewing master therapist videos, with the aims of developing specific therapeutic skills as a therapist.				
Reading case examples (e.g. narratives, transcripts, etc.).				
Discussion of psychotherapy related subjects with contemporaries/peers/mentors.				
Focused learning in one chosen model of psychotherapy.				
Tending to self-care activities and emotional needs (e.g. attending personal therapy, group work, quiet time, meditation, spiritual/religious practices, etc.) with the aim of being a better helper in the therapeutic relationship. Note: Please Specify: _____				
Socialising.				
Exercising.				
Rest (e.g., naps in the day, going for a walk, engaging in a non-therapeutic activity that is enjoyable)				

Engaging in any of the above domain related activities, above and beyond job requirements.				
Others (Please specify): _____				

1. Please rate the level of enjoyment that you typically experience when doing the above therapy related activities on a scale from 0 (not enjoyable at all) to 10 (most enjoyable).

*Not enjoyable at all* 0-----1-----2-----3-----4-----5-----6-----7-----8-----9-----10 *Most enjoyable*

2. How many hours **per week** (on average) do you spend **alone** seriously engaging in activities related to improving your therapy skills in the current year? \_\_\_\_ (hrs)
3. How many therapy sessions do you conduct in a typical week? \_\_\_\_\_ sessions.

**F. FEEDBACK**

**INSTRUCTIONS:** I would like you to think back over the last week [Note: check if the last WEEK is a typical work week. If not, recall the previous typical work week].

Please rate the activities below that you feel contribute to **improving your effectiveness** as a therapist.

Please indicate

- a. The number of clients you were involved in each activity **out of 10 cases** that you have seen in the last week;
- b. Your level of confidence in the accuracy of your number of client estimates on a scale from *0 (not at all confident in my time estimate) to 10 (highly confident in my time estimate)*;
- c. The relevance of following activities in **improving** your outcomes with your clients on a scale from *0 (not at all relevant) to 10 (highly relevant)*;
- d. *The level of mental effort that you typically exert when doing the following activities on a scale from 0 (no effort exerted at all) to 10 (highest possible effort exerted).*

In the table below, please indicate **0** in the No. of Clients column if you did not engage in a particular activity in the last week, **but still rate the level of relevance and the predicted level of effort required for the activity.**

<b>Activities</b>	<b>a. No. of Clients (Out of 10 cases)</b>	<b>b. Confidence (0-10)</b>	<b>c. Relevance (0-10)</b>	<b>d. Cognitive Effort (0-10)</b>
<i>For example: Writing verbatim feedback into client's casenotes.</i>	2	9	8	5
Formally elicit feedback about the session from clients (e.g., using the Session Rating Scale)				
Informally elicit feedback about the session from clients, without the use of the SRS.				
Surprised by client's feedback about the session.				
Using formal feedback (e.g. OQ/SRS, OQ) to compare and contrast my assessment with the client's view of progress.				
Perceiving formal client's feedback (e.g., OQ/SRS) as NOT credible information for guiding service delivery.				

1. Please rate the level of enjoyment that you typically experience when doing the above feedback activities on a scale from 0 (not enjoyable at all) to 10 (most enjoyable).

*Not enjoyable at all* 0-----1-----2-----3-----4-----5-----6-----7-----8-----9-----10 *Most enjoyable*

**Appendix E**  
Supplementary Tables

**Study I: Client Presenting Concerns and its Duration**

Table E1

*Description of 4580 client sample with 2 or more sessions in Study I*

Description	N	%	
Gender:	Males	1580	34.5
	Females	2999	65.5
	Not specified	1	.0
	Total	4580	100.0
Ethnicity:	Not Stated	954	20.8
	Asian, Other Asian, or Asian British	71	1.6
	Black (African, Carribean, Other Black, or Black British)	35	0.8
	Others	29	0.6
	Mixed Ethnicity	5	0.1
	White, Other White, White (British, Irish, European)	3033	66.2
	Missing	4127	90.1
	Total	453	9.9
		4127	90.1
Living Arrangements:	Living Alone	683	14.9
	Living with Partner	964	25.0
	Caring for Children Under 5	391	10.2
	Caring for Children Over 5	1077	28.0
	Living with Parents	419	10.9
	Living with Friends or Relatives	150	3.9
	Full-Time Carer	12	0.3
	Living in Shared Accommodation	81	2.1
	Living in Temporary Accommodation	13	0.3
		3	0.1
	Living in Institution Hospital	25	0.6
	Living with Partner & a Full-Time Carer	2	0.1
		25	0.6
	Living with Parents & a Full-Time Carer	5	0.1
		3850	84.1
	Living with Parents, Friends, &/or Relatives	730	15.9
Living Alone & in Temporary Accommodation	3850	84.1	
Currently on Psychotropic Medication:	No	1973	43.1

	Yes Total	1659 3632	36.2 79.3
	Missing Total	948 4580	20.7 100.0
Number of Presenting Concerns: <sup>1</sup>	0	477	10.4
	1	506	11.0
	2	495	10.8
	3	287	6.3
	4	158	3.4
	5	113	2.5
	6	63	1.4
	7	25	0.5
	8	12	0.3
	9	3	0.1
	Total	2139	46.7
	Missing Total	2441 4580	53.3 100.0
Chronicity of Presenting Concerns: <sup>2</sup>	Nil	690	15.1
	< 6 months	440	9.6
	6-12 months	353	7.7
	> 12 months	1019	22.2
	> Recurring/ continuous	1402	30.6
	Total	3904	85.2
	Missing Total	767 4580	14.8 100.0

Notes:

<sup>1</sup>Presenting Concerns include the following rated as 3=moderate difficulty and 4=severe difficulty: 1. Depression, 2. Anxiety/Stress, 3. Psychosis, 4. Personality Problems, 5. Cognitive Learning Difficulties, 6. Physical Problems, 7. Eating Disorders, 8. Addictions, 9., Trauma/Abuse, 10. Bereavement, 11. Self-Esteem issues, 12. Relationship Issues, 13. Living Welfare Concerns, 14. Work/Academic Concerns, 15. Others.

<sup>2</sup>Chronicity of Presenting Concerns is coded using the Presenting Concern with the longest duration in terms of difficulty experienced, as some clients have more than one presenting concern.

Table E2

*Types of Presenting Problems of the Client Population*

PRESENTING CONCERNS	N Total <sup>a</sup>	Mean Severity (0-4) <sup>b</sup>	SD Severity	N from Mild to Severe	% from Mild to Severe Range	Mean Duration (0-4) <sup>c</sup>	SD Duration	N < 6mths	N 6-12 mths	N > 12 mths	Re-curring/continuous	% <6mths to Reccurring Range
Depression	4515	1.80	1.46	2690	<b>59.58</b>	1.62	1.59	1854	526	433	812	<b>80.29</b>
Anxiety/Stress	4900	2.33	1.39	3670	<b>74.90</b>	1.95	1.58	669	548	1078	1143	<b>70.16</b>
Psychosis	3021	0.80	0.45	81	2.68	0.12	0.65	22	10	25	65	4.04
Personality Problems	3012	0.13	0.58	134	4.45	0.17	0.77	10	12	34	94	4.98
Cognitive/Learning issues	3022	0.15	0.65	153	5.06	0.19	0.82	22	14	20	119	5.79
Physical Problems	3271	0.59	1.21	637	19.47	0.64	1.34	79	64	219	308	20.48
Eating Disorders	3013	0.12	0.57	115	3.82	0.14	0.68	10	11	41	63	4.15
Addictions	3234	0.45	1.11	463	14.32	0.48	1.21	28	31	178	234	14.56
Trauma/Abuse	3450	1.12	1.57	1196	34.67	0.98	1.51	133	96	518	374	32.49
Bereavement	3303	0.74	1.33	804	24.34	0.65	1.28	114	114	319	209	22.89
Self-Esteem	3642	1.25	1.49	1544	42.39	1.28	1.68	133	126	511	690	40.09
Relationship Issues	3722	1.27	1.50	1568	42.13	1.20	1.57	263	201	579	516	41.89
Living/Welfare concerns	3191	0.38	0.97	419	13.13	0.41	1.07	93	80	133	161	14.63
Work/Academic Issues	3317	0.68	1.28	738	22.25	0.56	1.18	153	142	232	179	21.28
Others	3175	0.33	0.95	335	10.55	0.28	0.93	58	30	94	125	9.67

*Notes:*

<sup>a</sup> The figures are not mutually exclusive, as some clients present with more than one presenting concern.

<sup>b</sup> The Severity Range is as follows

**0.** Nil; **1.** Causing minimal difficulty: Problem reported as present, but only causing minor difficulty which does not affect day to day functioning; **2.** Causing mild difficulty: Problem present and causing difficulty in one area of functioning but does not affect overall day to day functioning; **3.** Causing moderate difficulty: Problem is causing significant difficulty in one or more areas of day to day functioning, and/or is moderately affecting overall functioning; **4.** Causing severe difficulty: Problem causing severe impairment in all areas of functioning.

<sup>c</sup>The Duration Range is as follows:

**0.** Nil; **1.** < 6 months; **2.** 6-12months; **3.** >12 months; **4.** Recurring/Continuous

Table E3

*Number of Clients on Psychiatric Medication*

Description	Total No. of Respondents	No. Of Clients on Meds	Percentage
Currently on Meds	3632	2277	45.7
Antidepressants	1610	1416	88.0
Antipsychotics	1610	82	5.1
Anxiolytics	1610	255	15.8



Table E4

Rank Ordering of Therapist Based Outcome Scores

Therapists ID <sup>a</sup>	Rank - ing	Therapist Demographics		Caseload		CORE-10			Raw E.S. <sup>c</sup>	Performance Index		95% Confidence Interval		Reliable Change Index (RCI = >=6; Reliable Improvement)		Clinical Significance (i.e., Reliable Recovery)	
		Age Range <sup>b</sup>	Gen- der	Client Load (incl. < 2 sessions)	Caseload ≥ 2 sessions	Pre- CORE	Post- CORE	SD (Pre- CORE)		Adjusted Client Outcomes <sup>d</sup>	Std Error	Lower Bound	Upper Bound	N	%	N	%
51 <sup>a</sup>	1	3	1	25	19	23.36	8.11	6.73	2.06	6.558	1.547	3.525	9.59	17	89.47	11	57.89
39	2	5	1	97	41	21.61	8.64	5.74	1.75	7.991	1.053	5.927	10.055	39	95.12	31	75.61
32 <sup>a</sup>	3	5	1	31	26	18.52	6.65	7.94	1.60	8.007	1.322	5.414	10.599	18	69.23	15	57.69
18	4	3	2	109	68	19.60	7.66	7.05	1.61	8.06	0.817	6.458	9.663	54	79.41	45	66.18
26 <sup>a</sup>	5	3	2	28	23	18.57	7.57	7.99	1.49	8.287	1.406	5.532	11.043	18	78.26	12	52.17
25	6	3	1	16	10	19.44	8.40	8.89	1.49	8.491	2.131	4.313	12.67	8	80.00	7	70.00
69 <sup>a</sup>	7	5	2	89	86	19.45	8.24	6.62	1.52	8.547	0.727	7.122	9.971	62	72.09	48	55.81
4 <sup>a</sup>	8	5	1	299	273	22.06	9.43	6.36	1.71	8.581	0.409	7.78	9.382	231	84.62	170	62.27
56	9	3	2	73	50	20.16	8.68	7.41	1.55	8.744	0.953	6.875	10.612	41	82.00	32	64.00
45	10		2	24	18	20.00	8.89	5.39	1.50	9.038	1.589	5.923	12.152	13	72.22	12	66.67
53	11	3	1	103	58	20.15	9.29	6.91	1.47	9.105	0.885	7.37	10.84	43	74.14	33	56.90
17	12	3	2	18	13	18.17	8.69	7.63	1.28	9.173	1.869	5.508	12.838	10	76.92	8	61.54
28 <sup>a*</sup>	13	3	1	50	40	17.04	8.07	7.90	1.21	9.424	1.066	7.334	11.515	27	67.50	19	47.50
6 <sup>a</sup>	14	5	1	272	182	18.97	8.79	6.85	1.38	9.448	0.5	8.467	10.428	134	73.63	96	52.75
43 <sup>a</sup>	15	3	2	57	46	17.69	8.56	8.30	1.23	9.657	0.995	7.707	11.608	29	63.04	23	50.00
60	16	4	2	100	78	17.89	8.96	7.24	1.21	9.793	0.764	8.296	11.29	53	67.95	43	55.13
64	17	5	1	95	70	19.97	9.53	6.93	1.41	9.891	0.806	8.312	11.471	53	75.71	34	48.57
13	18	-	-	16	13	22.31	10.92	7.11	1.54	9.949	1.87	6.284	13.615	9	69.23	7	53.85
41	19	3	1	15	14	21.40	10.43	6.63	1.48	10	1.801	6.468	13.532	11	78.57	7	50.00
24	20		2	104	72	21.94	11.00	6.64	1.48	10.209	0.795	8.651	11.767	51	70.83	36	50.00
67	21	3	2	77	62	18.64	9.84	7.19	1.19	10.249	0.856	8.57	11.927	44	70.97	35	56.45
31 <sup>a</sup>	22	5	1	174	146	20.98	10.78	5.94	1.38	10.329	0.558	9.235	11.423	109	74.66	70	47.95
62	23	4	1	78	62	16.73	9.29	6.52	1.01	10.532	0.857	8.852	12.212	35	56.45	28	45.16
57	24	3	2	18	15	18.29	9.75	7.19	1.16	10.602	1.741	7.19	14.015	9	60.00	8	53.33
47	25	3	2	30	16	20.57	11.94	6.95	1.17	10.623	1.685	7.319	13.927	11	68.75	7	43.75
37	26	3	2	86	60	19.37	10.58	6.79	1.19	10.872	0.87	9.166	12.578	43	71.67	30	50.00
49 <sup>a</sup>	27	3	1	496	335	20.51	11.15	7.51	1.27	10.976	0.368	10.254	11.698	232	69.25	151	45.07
34	28	3	2	44	31	19.05	10.52	8.41	1.15	10.987	1.211	8.614	13.36	20	64.52	9	29.03
58 <sup>a</sup>	29	3	2	121	83	18.59	10.69	8.04	1.07	11.047	0.74	9.597	12.498	51	61.45	34	40.96
30 <sup>a</sup>	30	3	2	67	56	20.57	11.60	8.75	1.21	11.142	0.901	9.376	12.908	35	62.50	25	44.64
54	31	3	1	15	11	19.07	10.64	9.27	1.14	11.239	2.032	7.255	15.223	7	63.64	5	45.45



Note. <sup>a</sup> Bold Therapist ID indicates those who participated in the therapist questionnaire, which is reported in the Study 2. An asterisk next to the Therapist ID indicates that the therapist questionnaire was not fully completed.

<sup>b</sup> Therapist Age Range: 1 = 25 or under; 2 = 26.40; 3 = 41-55; 5 = 61 or older. Dashes were used to represent missing values, which indicate that the particular information was not provided.

<sup>c</sup> E.S. = Raw Effect Size. The standard deviation used for the calculation of the raw effect size is based on the Pre CORE score, *SD* = 7.39

<sup>d</sup> Unlike the raw effect size, the Adjusted Client Outcomes scores represent the Last CORE scores, adjusted for the Grand Centered Mean of the First CORE score. Lower scores mean greater improvement.

Table E4.  
Rank Ordering of Therapist Based Outcome Scores (cont.)

Therapists		No. of Sessions Attended		Planned Endings		Non-Planned Endings		Deterioration		No-Change	
ID <sup>a</sup>	Ranking	M	SD	N	%	N	%	N	%	N	%
<b>51<sup>a</sup></b>	1	3.63	1.64	17	89.47	2	10.53	0	0.00	2	10.53
39	2	4.14	1.76	35	85.37	2	4.88	1	2.44	2	4.88
<b>32<sup>a</sup></b>	3	3.00	1.38	20	76.92	5	19.23	0	0.00	8	30.77
18	4	6.32	4.41	17	25.00	2	2.94	2	2.94	12	17.65
<b>26<sup>a</sup></b>	5	3.65	1.70	19	82.61	4	17.39	0	0.00	5	21.74
25	6	5.25	4.53	7	70.00	1	10.00	1	10.00	1	10.00
<b>69<sup>a</sup></b>	7	3.87	1.27	79	91.86	7	8.14	0	0.00	24	27.91
<b>4<sup>a</sup></b>	8	3.58	1.74	205	75.09	55	20.15	0	0.00	42	15.38
56	9	7.62	2.47	43	86.00	0	0	0	0.00	9	18.00
45	10	-	-	-	-	-	-	0	0.00	5	27.78
53	11	6.27	3.45	33	56.90	10	17.24	1	1.72	14	24.14
17	12	4.20	2.25	9	69.23	0	0	0	0.00	3	23.08
<b>28<sup>a*</sup></b>	13	4.13	2.16	22	55.00	7	17.50	0	0.00	13	32.50
<b>6<sup>a</sup></b>	14	3.88	3.78	151	82.97	28	15.38	4	2.20	44	24.18
<b>43<sup>a</sup></b>	15	6.20	3.27	34	73.91	6	13.04	2	4.35	15	32.61
60	16	3.10	1.31	61	78.21	3	3.85	2	2.56	23	29.49
64	17	3.52	1.42	53	75.71	7	10.00	1	1.43	16	22.86
13	18	4.46	2.37	9	69.23	4	30.77	0	0.00	4	30.77
41	19	5.00	2.68	7	50.00	5	35.71	0	0.00	3	21.43
24	20	5.42	3.49	31	43.06	11	15.28	2	2.78	19	26.39
67	21	2.95	1.55	41	66.13	2	3.23	0	0.00	18	29.03
<b>31<sup>a</sup></b>	22	3.04	1.05	113	77.40	15	10.27	0	0.00	37	25.34
62	23	3.92	1.21	47	75.81	3	4.84	2	3.23	25	40.32

57	24	5.00	1.18	11	73.33	0	0	1	6.67	5	33.33
47	25	3.60	0.89	4	25.00	1	6.25	0	0.00	5	31.25
37	26	4.23	1.65	40	66.67	20	33.33	1	1.67	16	26.67
<b>49<sup>a</sup></b>	27	4.00	2.56	235	70.15	76	22.69	5	1.49	98	29.25
34	28	4.90	2.28	16	51.61	7	22.58	0	0.00	11	35.48
<b>58<sup>a</sup></b>	29	3.58	2.83	36	43.37	3	3.61	1	1.20	31	37.35
<b>30<sup>a</sup></b>	30	6.58	3.01	34	60.71	3	5.36	0	0.00	21	37.50
54	31	2.40	0.70	10	90.91	0	0.00	1	9.09	3	27.27
42	32	5.37	7.81	29	50.88	9	15.79	3	5.26	20	35.09
12	33	7.31	4.60	27	79.41	4	11.76	2	5.88	9	26.47
<b>1<sup>a</sup></b>	34	3.77	1.48	7	35.00	6	30.00	0	0.00	4	20.00
46	35	4.29	2.11	49	61.25	21	26.25	3	3.75	27	33.75
<b>7<sup>a</sup></b>	36	4.00	na	1	3.57	0	0	2	7.14	7	25.00
19	37	2.50	0.55	4	40.00	4	40.00	0	0.00	3	30.00
48	38	7.40	6.59	7	23.33	4	13.33	0	0.00	17	56.67
3	39	4.77	5.98	55	83.33	7	10.61	2	3.03	26	39.39
11	40	2.91	2.16	57	67.06	10	11.76	5	5.88	25	29.41
23	41	8.42	3.82	28	70.00	9	22.50	1	2.50	15	37.50
44	42	5.56	3.51	151	56.34	74	27.61	8	2.99	107	39.93
<b>52<sup>a*</sup></b>	43	3.60	2.70	8	80.00	0	0	0	0.00	5	50.00
<b>10<sup>a</sup></b>	44	3.71	2.21	29	76.32	5	13.16	1	2.63	17	44.74
14	45	6.24	3.17	10	58.82	7	41.18	0	0.00	8	47.06
66	46	5.27	3.92	72	35.64	81	40.10	10	4.95	65	32.18
22	47	6.91	8.85	49	59.04	23	27.71	5	6.02	32	38.55
29	48	5.62	4.32	71	41.28	65	37.79	7	4.07	60	34.88
5	49	3.18	1.25	9	64.29	2	14.29	1	7.14	5	35.71
35	50	5.00	3.27	1	8.33	2	16.67	0	0.00	6	50.00
2	51	18.25	16.87	7	50.00	1	7.14	1	7.14	5	35.71
9	52	7.20	3.11	5	22.73	1	4.55	1	4.55	10	45.45
65	53	3.92	2.52	21	53.85	3	7.69	2	5.13	15	38.46
<b>38<sup>a*</sup></b>	54	4.22	2.98	59	31.05	41	21.58	5	2.63	76	40.00
15	55	2.89	0.78	4	20.00	5	25.00		0.00	13	65.00
36	56	6.78	4.57	20	47.62	14	33.33	1	2.38	17	40.48
61	57	11.86	12.90	8	25.81	1	3.23	0	0.00	17	54.84
55	58	4.94	4.66	88	46.32	88	46.32	13	6.84	70	36.84
8	59	6.00	1.41	1	2.86	0	0	3	8.57	14	40.00
63	60	5.95	4.31	63	43.45	46	31.72	6	4.14	56	38.62
16	61	4.92	3.62	57	32.02	90	50.56	5	2.81	88	49.44
27	62	18.00		8	15.38	0	0	1	1.92	28	53.85

68	63	4.39	2.87	24	61.54	13	33.33	3	7.69	18	46.15
59	64	3.50	2.12	6	16.67	7	19.44	6	16.67	11	30.56
50	65	9.50	3.54	1	3.23	1	3.23	1	3.23	21	67.74
21	66	5.25	1.81	18	14.63	7	5.69	3	2.44	59	47.97
40	67	4.17	1.94	2	20.00	3	30.00	0	0.00	3	30.00
33	68	2.50	0.71	2	9.52	0	0	1	4.76	8	38.10
<b>20<sup>a</sup></b>	69	7.40	5.44	6	31.58	4	21.05	2	10.53	7	36.84
TOTAL				2503		947		131		1528	
AVERAGE				36.81	52.64	16.05	18.48	2.98	2.99	22.14	34.02

*Note.* <sup>a</sup> Bold Therapist ID indicates those who participated in the therapist questionnaire, which is reported in the Study 2. An asterisk next to the Therapist ID indicates that the therapist questionnaire was not fully completed.

Dashes were used to represent missing values, which indicate that the particular information was not provided.

Table E5.

*SPSS Output for One-Way ANOVA examining therapists grouped into quartiles based on client outcomes and other reported factors for the entire sample.*

ANOVA						
	Sum of Squares	df	Mean Square	F	Sig.	
% of Clients reaching RCI = >=6	Between Groups	6891.067	3	2297.022	39.971	.000
	Within Groups	3735.398	65	57.468		
	Total	10626.466	68			
% Clinc_Signif (Reliable Recovery)	Between Groups	11300.196	3	3766.732	71.590	.000
	Within Groups	3419.992	65	52.615		
	Total	14720.188	68			
% of Planned_Ending	Between Groups	13428.938	3	4476.313	10.764	.000
	Within Groups	27030.790	65	415.858		
	Total	40459.728	68			
Mean_No_of_Sessions	Between Groups	18.714	3	6.238	.988	.404
	Within Groups	410.392	65	6.314		
	Total	429.106	68			
Deterioration (% <=6 points change	Between Groups	96.446	3	32.149	3.188	.029
	Within Groups	655.470	65	10.084		
	Total	751.916	68			
NoChange (%); between -5 to +5 points change	Between Groups	5079.818	3	1693.273	23.765	.000
	Within Groups	4631.246	65	71.250		
	Total	9711.064	68			

Post Hoc Tests

Multiple Comparisons								
Tukey HSD								
Dependent Variable	(I) Ranking in Quartiles	(J) Ranking in Quartiles	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval		
						Lower Bound	Upper Bound	
% of Clients reaching RCI = >=6	1st Quartile	2nd Quartile	8.85706*	2.60017	.006	2.0010	15.7131	
		3rd Quartile	18.94059*	2.60017	.000	12.0846	25.7966	
		4th Quartile	26.24931*	2.56381	.000	19.4892	33.0095	
	2nd Quartile	1st Quartile		-8.85706*	2.60017	.006	-	-2.0010
							15.7131	
		3rd Quartile	10.08353*	2.60017	.001	3.2275	16.9396	
		4th Quartile	17.39225*	2.56381	.000	10.6321	24.1524	
	3rd Quartile	1st Quartile		-18.94059*	2.60017	.000	-	-
							25.7966	12.0846
		2nd Quartile	-10.08353*	2.60017	.001	-	-3.2275	
	4th Quartile	4th Quartile		7.30873*	2.56381	.029	.5486	14.0689
1st Quartile			-26.24931*	2.56381	.000	-	-	
						33.0095	19.4892	
2nd Quartile		-17.39225*	2.56381	.000	-	-		
3rd Quartile					24.1524	10.6321		
% 1st	2nd Quartile		12.22059*	2.48798	.000	5.6604	18.7808	

The Study of Supershrinks

Cline_Signif (Reliable Recovery)	Quartile	3rd Quartile	24.85235*	2.48798	.000	18.2922	31.4126	
		4th Quartile	33.68186*	2.45318	.000	27.2134	40.1503	
	2nd Quartile	1st Quartile	-12.22059*	2.48798	.000	-	-5.6604	
						18.7808		
	3rd Quartile		3rd Quartile	12.63176*	2.48798	.000	6.0716	19.1920
			4th Quartile	21.46127*	2.45318	.000	14.9928	27.9297
			1st Quartile	-24.85235*	2.48798	.000	-	-
							31.4126	18.2922
	4th Quartile		2nd Quartile	-12.63176*	2.48798	.000	-	-6.0716
							19.1920	
			4th Quartile	8.82951*	2.45318	.003	2.3611	15.2980
			1st Quartile	-33.68186*	2.45318	.000	-	-
							40.1503	27.2134
			2nd Quartile	-21.46127*	2.45318	.000	-	-
	% of Planned_Endi ng	1st Quartile					27.9297	14.9928
				3rd Quartile	-8.82951*	2.45318	.003	-
							15.2980	
			2nd Quartile	10.57118	6.99461	.437	-7.8719	29.0143
2nd Quartile			3rd Quartile	17.39059	6.99461	.072	-1.0525	35.8337
			4th Quartile	37.83631*	6.89677	.000	19.6512	56.0214
			1st Quartile	-10.57118	6.99461	.437	-	7.8719
							29.0143	
3rd Quartile			3rd Quartile	6.81941	6.99461	.764	-	25.2625
							11.6237	
			4th Quartile	27.26513*	6.89677	.001	9.0800	45.4503
			1st Quartile	-17.39059	6.99461	.072	-	1.0525
4th Quartile						35.8337		
		2nd Quartile	-6.81941	6.99461	.764	-	11.6237	
						25.2625		
		4th Quartile	20.44572*	6.89677	.021	2.2606	38.6309	
Mean_No_of Sessions	1st Quartile					-	-	
			1st Quartile	-37.83631*	6.89677	.000	-	-
							56.0214	19.6512
			2nd Quartile	-27.26513*	6.89677	.001	-	-9.0800
Deterioration (%) <=6 points change	2nd Quartile					45.4503		
			3rd Quartile	-20.44572*	6.89677	.021	-	-2.2606
							38.6309	
			2nd Quartile	2nd Quartile	.86185	.962	-2.6896	1.8554
	3rd Quartile		3rd Quartile	-.90706	.86185	.719	-3.1796	1.3654
			4th Quartile	.49660	.84980	.936	-1.7441	2.7373
			1st Quartile	.41706	.86185	.962	-1.8554	2.6896
			3rd Quartile	-.49000	.86185	.941	-2.7625	1.7825
	4th Quartile		4th Quartile	.91366	.84980	.706	-1.3271	3.1544
			1st Quartile	.90706	.86185	.719	-1.3654	3.1796
			2nd Quartile	.49000	.86185	.941	-1.7825	2.7625
			4th Quartile	1.40366	.84980	.357	-.8371	3.6444
Deterioration (%) <=6 points change	1st Quartile					-2.7373	1.7441	
			2nd Quartile	-.91366	.84980	.706	-3.1544	1.3271
			3rd Quartile	-1.40366	.84980	.357	-3.6444	.8371
	2nd Quartile		2nd Quartile	-.56647	1.08921	.954	-3.4384	2.3055
			3rd Quartile	-1.74118	1.08921	.387	-4.6132	1.1308
			4th Quartile	-3.05690*	1.07397	.029	-5.8887	-.2251
3rd Quartile		1st Quartile	.56647	1.08921	.954	-2.3055	3.4384	
		3rd Quartile	-1.17471	1.08921	.704	-4.0467	1.6973	
		4th Quartile	-2.49042	1.07397	.104	-5.3222	.3414	
	1st Quartile	1.74118	1.08921	.387	-1.1308	4.6132		

The Study of Supershrinks

NoChange (%); between -5 to +5 points change	Quartile	2nd Quartile	1.17471	1.08921	.704	-1.6973	4.0467
		4th Quartile	-1.31572	1.07397	.613	-4.1475	1.5161
	4th	1st Quartile	3.05690*	1.07397	.029	.2251	5.8887
	Quartile	2nd Quartile	2.49042	1.07397	.104	-.3414	5.3222
		3rd Quartile	1.31572	1.07397	.613	-1.5161	4.1475
	1st	2nd Quartile	-8.20235*	2.89523	.030	-	-.5683
	Quartile					15.8364	
		3rd Quartile	-16.88118*	2.89523	.000	-	-9.2472
						24.5152	
		4th Quartile	-22.49275*	2.85473	.000	-	-
						30.0200	14.9655
	2nd	1st Quartile	8.20235*	2.89523	.030	.5683	15.8364
	Quartile	3rd Quartile	-8.67882*	2.89523	.020	-	-1.0448
						16.3128	
		4th Quartile	-14.29039*	2.85473	.000	-	-6.7631
						21.8176	
	3rd	1st Quartile	16.88118*	2.89523	.000	9.2472	24.5152
	Quartile	2nd Quartile	8.67882*	2.89523	.020	1.0448	16.3128
		4th Quartile	-5.61157	2.85473	.212	-	1.9157
						13.1388	
4th	1st Quartile	22.49275*	2.85473	.000	14.9655	30.0200	
Quartile	2nd Quartile	14.29039*	2.85473	.000	6.7631	21.8176	
	3rd Quartile	5.61157	2.85473	.212	-1.9157	13.1388	

\*. The mean difference is significant at the 0.05 level.



Scatterplots of Therapists Rankings and Performance Indicators

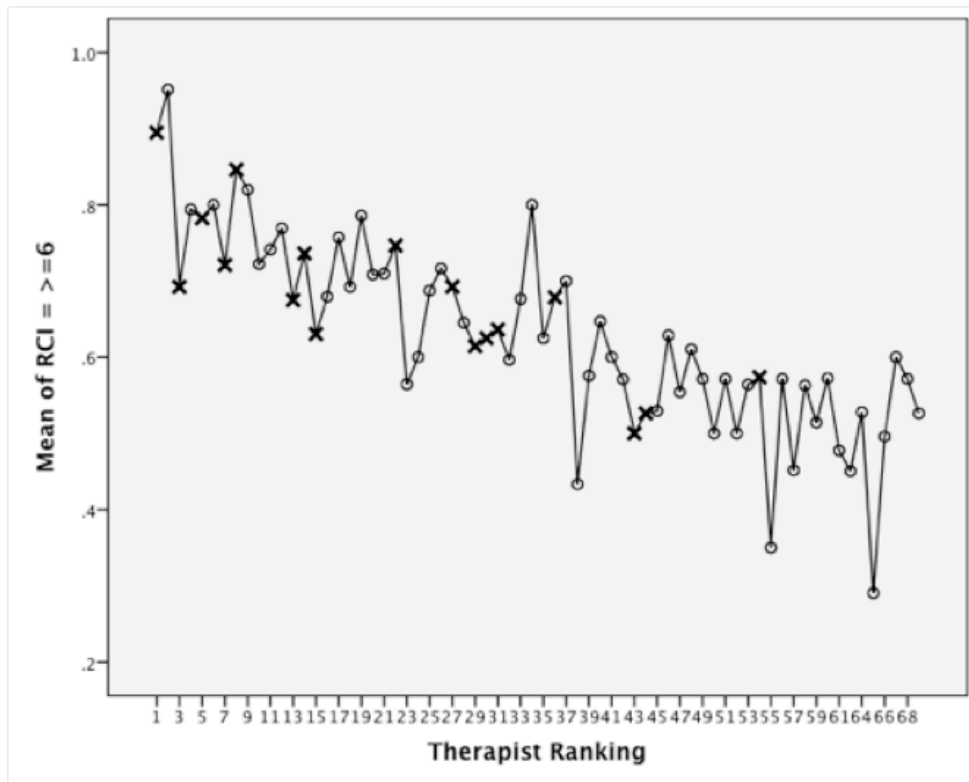


Figure E1. Scatterplot of Therapist Rankings and Reliable Change Index (RCI)

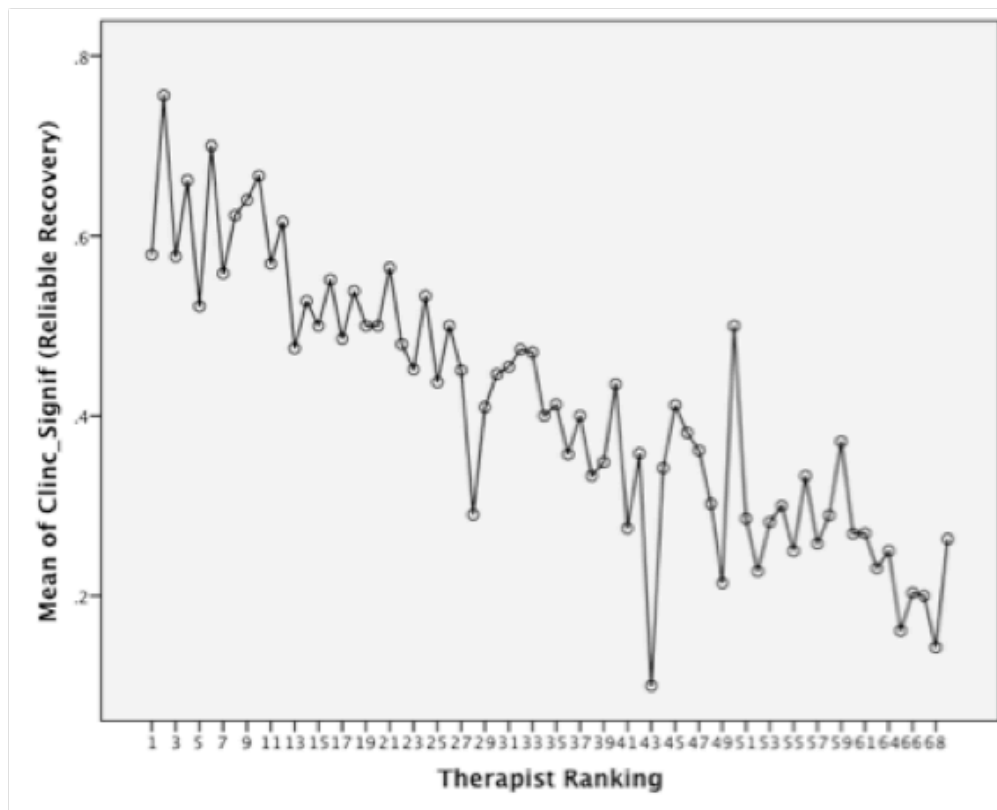


Figure E2 . Scatterplot of Therapist Rankings and Clinical Significance

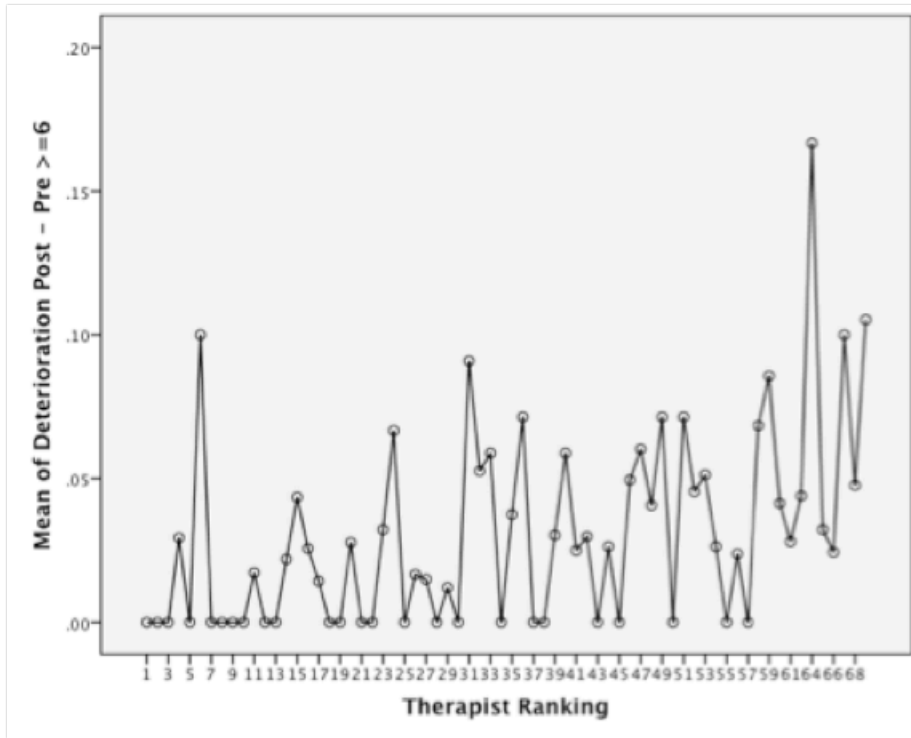


Figure E3. Scatterplot of Therapist Rankings and Deterioration Rates

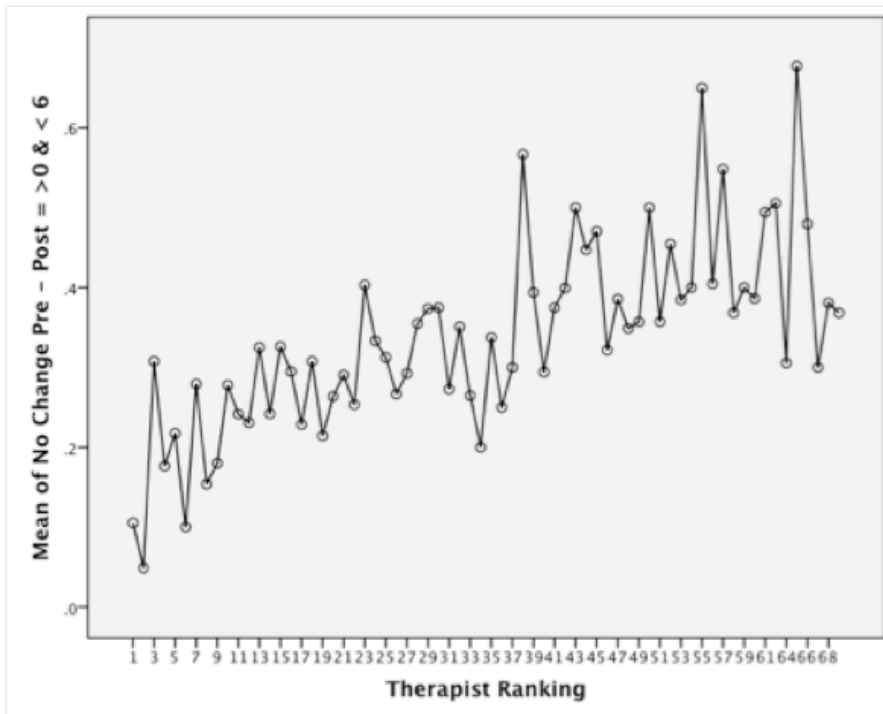


Figure E4. Scatterplot of Therapist Rankings and No-Change Rates

## Appendix F

## Study II: Client Presenting Concerns and its Duration

Table F1

*Description of 1632 client sample with 2 or more sessions in Study II*

	Description	N	%	
Gender:	Male	646	39.6	
	Female	985	60.4	
	Not Specified	1	.1	
	Total	1632	100.0	
Ethnicity:	N/A or not Stated	105	6.4	
	Asian, Other Asian, or Asian British	46	2.8	
	Black (African, Carribean, Other Black, or Black Brit	30	1.8	
	Other	15	.9	
	Mixed Background	3	.2	
	White, Other White, White (Brit, Irish, European)	1363	83.5	
	Total	1562	95.7	
	Missing	70	4.3	
	Living Arrangements:	Living Alone	240	14.7
		Living w Partner	443	27.1
Caring for Children under 5		133	8.1	
Caring for children over 5		355	21.8	
Living w Parents		181	11.1	
Living w friends or relatives		51	3.1	
Full Time Carer		5	.3	
Living Shared Accommodation		60	3.7	
Living Temp Accommodation		2	.1	
Living in Institution Hospital		2	.1	
Living w Partner & Full Time Carer		7	.4	
Living w Parents & Full-time Carer		1	.1	
Living w Parents, Friends &/or relatives		8	.5	
Living alone & living Temporary Accommodation		5	.3	
Total		1493	91.5	
Missing		139	8.5	

Currently on Psychotropic Medication:	No	857	52.5
	Yes	577	35.4
	Total	1434	87.9
	Missing	198	12.1
	Total	1632	100.0
Number of Presenting Concerns: <sup>1</sup>	.00	194	11.9
	1.00	207	12.7
	2.00	151	9.3
	3.00	91	5.6
	4.00	54	3.3
	5.00	52	3.2
	6.00	31	1.9
	7.00	19	1.2
	8.00	11	.7
	9.00	2	.1
	Total	812	49.8
	Missing	820	50.2
	Total	1632	100.0
Chronicity of Presenting Concerns: <sup>2</sup>	Nil	135	8.3
	< 6 months	274	16.8
	6-12 months	155	9.5
	>12 months	450	27.6
	Recurring / Continuous	487	29.8
	Total	1501	92.0
	Missing	131	8.0
Total	1632	100.0	

Notes:

<sup>1</sup>Presenting Concerns include the following rated as 3=moderate difficulty and 4=severe difficulty: 1. Depression, 2. Anxiety/Stress, 3. Psychosis, 4. Personality Problems, 5. Cognitive Learning Difficulties, 6. Physical Problems, 7. Eating Disorders, 8. Addictions, 9., Trauma/Abuse, 10. Bereavement, 11. Self-Esteem issues, 12. Relationship Issues, 13. Living Welfare Concerns, 14. Work/Academic Concerns, 15. Others.

<sup>2</sup>Chronicity of Presenting Concerns is coded using the Presenting Concern with the longest duration in difficulty.

Table F2

*Types of Presenting Problems of the Client Population*

PRESENTING CONCERNS	N Total <sup>a</sup>	M Severity (0-4) <sup>b</sup>	SD Severity	N from Mild to Severe	% from Mild to Severe Range	M Duration (0-4) <sup>c</sup>	SD Duration	N < 6mths	N 6-12 mths	N > 12 mths	Recurring/continuous	% <6mths to Recurring Range
Depression	1234	2.00	1.39	613	49.68	1.80	1.54	398	195	292	226	90.03
Anxiety/Stress	1357	2.37	1.26	779	57.41	2.07	1.48	249	151	368	288	77.82
Psychosis	836	0.04	0.32	6	0.72	0.06	0.45	2	4	5	7	2.15
Personality Problems	830	0.08	0.47	13	1.57	0.12	0.64	1	0	12	15	3.37
Cognitive/Leaning issues	832	0.05	0.37	9	1.08	0.06	0.44	2	2	8	5	2.04
Physical Problems	879	0.53	1.15	102	11.60	0.52	1.17	13	19	92	33	17.86
Eating Disorders	836	0.15	0.63	26	3.11	0.14	0.70	2	2	14	18	4.31
Addictions	853	0.34	0.95	60	7.03	0.36	1.04	7	7	49	35	11.49
Trauma/Abuse	963	1.40	1.65	319	33.13	1.13	1.56	36	29	188	107	37.38
Bereavement	888	0.55	1.18	104	11.71	0.45	1.08	23	21	78	26	16.67
Self-Esteem	936	1.15	1.45	239	25.53	1.10	1.61	26	18	143	135	34.40
Relationship Issues	990	1.25	1.50	281	28.38	1.07	1.51	72	37	160	109	38.18
Living/Welfare concerns	863	0.29	0.87	45	5.21	0.26	0.87	17	13	26	25	9.39
Work/Academic Issues	902	0.75	1.35	148	16.41	0.56	1.19	28	36	77	43	20.40
Others	915	0.37	0.97	83	9.07	0.34	1.00	58	30	94	125	33.55

*Notes:*

<sup>a</sup> The figures are not mutually exclusive, as some clients present with more than one presenting concern.

<sup>b</sup> The Severity Range is as follows

**0.** Nil; **1.** Causing minimal difficulty: Problem reported as present, but only causing minor difficulty which does not affect day to day functioning; **2.** Causing mild difficulty: Problem present and causing difficulty in one area of functioning but does not affect overall day to day functioning; **3.** Causing moderate difficulty: Problem is causing significant difficulty in one or more areas of day to day functioning, and/or is moderately affecting overall functioning; **4.** Causing severe difficulty: Problem causing severe impairment in all areas of functioning.

<sup>c</sup> The Duration Range is as follows:

**0.** Nil; **1.** < 6 months; **2.** 6-12months; **3.** >12 months; **4.** Recurring/Continuous

Table F3

*Number of Clients on Psychiatric Medication*

Description	Total No. of Respondents	No. Of Clients on Meds	Percentage
Currently on Meds	1434	577	40.2
Antidepressants	588	504	85.7
Antipsychotics	588	22	3.7
Anxiolytics	588	89	15.1

**Appendix G**

## Descriptive Statistics for Study II

Tables G1

## Descriptive Statistics of Therapist Categorical Variables in Study II

		Therapist Age Range:			Cumulative
		Frequency	Percent	Valid Percent	Percent
Valid	41 to 55	11	64.7	64.7	64.7
	56 to 60	1	5.9	5.9	70.6
	61 or older	5	29.4	29.4	100.0
	Total	17	100.0	100.0	

		Gender			Cumulative
		Frequency	Percent	Valid Percent	Percent
Valid	Male	9	52.9	52.9	52.9
	Female	8	47.1	47.1	100.0
	Total	17	100.0	100.0	

		PROFESSION			Cumulative
		Frequency	Percent	Valid Percent	Percent
Valid	Counsellor	3	17.6	17.6	17.6
	Psychotherapist	9	52.9	52.9	70.6
	Counselling Psych	2	11.8	11.8	82.4
	Clinical Psych	1	5.9	5.9	88.2
	Others	2	11.8	11.8	100.0
	Total	17	100.0	100.0	

		Highest Qualification			Cumulative
		Frequency	Percent	Valid Percent	Percent
Valid	Diploma	2	11.8	11.8	11.8
	Post-Graduate Diploma	6	35.3	35.3	47.1
	Masters Degree	3	17.6	17.6	64.7

PhD/Doctorate	2	11.8	11.8	76.5
Others	4	23.5	23.5	100.0
Total	17	100.0	100.0	

**Table G2***Descriptive Statistics of Main Outcome and Therapist Variables in Study II*

Descriptive Statistics			
	<i>N</i>	<i>Mean</i>	<i>SD</i>
OUTCOME MEASURES			
Post_CORE10 scores	17	9.78	1.83
Pre_CORE10 scores	17	19.24	2.03
THERAPIST MEASURES			
<u>Therapist Demographics</u>			
Years of Experience	17	8.45	5.24
Integration (" <i>To what extent do you regard your orientation as eclectic or integrative?</i> ")	17	4.65	1.46
Number of Caseloads	17	94.24	97.40
Deliberate Practice			
Deliberate Practice Alone (" <i>How many hours per week (on average) do you spend alone seriously engaging in activities related to improving your therapy skills in the current year?</i> ")	15	4.85	5.86
<i>Domain Related Activities (Time Spent in a typical work month, hours)</i>			
1. General clinical supervision as a supervisee (without review of Audio/Visual recordings of sessions).Time (hrs)	15	1.08	0.71
2. Clinical Supervision as a supervisee (with review of Audio/Visual recordings of sessions).	14	0.00	0.00
3. Clinical Supervision as a supervisee (review of difficult/challenging cases and/or cases with nil improvement).	14	0.68	0.46
4. Live supervision provided during sessions (e.g., supervisor as co-therapist, one-way mirror/reflecting team, etc.).	14	0.00	0.00
5. Reading of journals pertaining to psychotherapy and counselling.	15	4.47	3.72
6. Reading/Re-reading of core counselling and therapeutic skills in psychotherapy.	15	2.69	7.61
7. Focused learning in specific model(s) of psychotherapy.	14	1.36	1.45



	<i>N</i>	<i>Mean</i>	<i>SD</i>
8. Reviewing therapy recordings alone.	14	0.14	0.53
9. Reviewing of therapy recordings with peers.	14	0.11	0.40
10. Reviewing difficult/challenging cases alone.	15	1.60	1.64
11. Attending training workshops for specific models of therapy.	15	4.87	7.78
12. Case discussion/ conceptualisation/ formulation with a mentor/clinical supervisor.	15	1.23	1.80
13. Mentally running through and reflecting on the past sessions in your mind.	15	2.05	1.78
14. Mentally running through and reflecting on what to do in future sessions.	15	5.65	10.25
15. Writing down your reflections of previous sessions.	15	2.93	4.10
16. Writing down your plans for future sessions.	15	1.62	1.97
17. Case discussion/ conceptualisation/ formulation with peers.	15	0.93	1.15
18. Viewing master therapist videos, with the aims of developing specific therapeutic skills as a therapist.	14	0.29	0.61
19. Reading case examples (e.g., narratives, transcripts, case studies).	15	0.57	0.73
20. Discussion of psychotherapy related subjects with contemporaries/peers/mentors.	15	3.23	4.30
21. Tending to self-care activities and emotional needs	15	8.37	10.92
22. Socialising.	15	15.00	19.06
23. Exercising.	15	12.27	13.62
24. Rest (e.g., naps in the day, going for a walk, engaging in a non-therapeutic activity that is enjoyable)	15	17.40	16.29
25. Others.	8	23.56	40.94
<u>Feedback Activities (Number of clients, out of 10, in the last typical work week)</u>			
1. Formally elicit feedback about the session from clients (e.g., using the Session Rating Scale)	15	3.20	4.38
2. Informally elicit feedback about the session from clients, without the use of the measures (e.g., SRS).	15	5.87	3.80
3. Surprised by client's feedback about the session.	15	0.68	0.97
4. Using formal feedback (e.g. CORE/OQ/SRS) to compare and contrast my assessment with the client's view of progress.	15	6.07	4.48
5. Perceiving formal client's feedback (e.g., CORE/OQ/SRS) as NOT credible information for guiding service delivery	15	0.61	1.29
<u>Psychotherapists' Work Involvement Scales</u>			
Healing Involvement_FULLL: (HI_1 + HI_2)/25	16	11.71	1.06
Stressful Involvement = (SI_1 + SI_2) / 22	16	2.46	1.54
Current Therapeutic Skills: Basic Relational Skills (Items 3,4,5,6; a = .79).	16	16.94	2.29
Relational Agency: Invested (Items 8, 13, 14; a = .67).	16	7.06	1.61
Relational Agency: Efficacy (Items 10, 15,17,18; c = .59).	16	8.63	2.03

	<i>N</i>	<i>Mean</i>	<i>SD</i>
Relational Manner: Affirming (Items 7, 11, 19,20; $\alpha = .69$ ).	16	10.19	1.52
<hr/>			
Coping Strategies: Constructive Coping (Items 29, 31, 33, 34,35, 40; $\alpha = .67$ ).	16	23.13	3.32
Coping Strategies: Avoidant Coping (Items 30, 32, 36, 37, 38, 39; $\alpha = .64$ ).	16	6.38	3.91
Difficulties in Practice: Frequent Difficulties (Items 21, 22,23,24,25,26,27, 28 $\alpha = .81$ ).	16	7.31	5.02
In-Session Feelings: Flow (Items 44,46,48,51; $\alpha = .62$ ).	16	8.63	1.89
In-Session Feelings: Boredom (Items 41, 43,45,47; $\alpha = .66$ ).	16	1.00	1.37
In-Session Feelings: Anxiety (Items 42, 49,50,57; $\alpha = .74$ ).	16	1.63	1.54
Net Work Satisfaction (Item 1 - Item 2). (range +5 to -5).	16	3.56	1.79
<u>Psychotherapists' Professional Development Scales</u>			
Overall Career Development = (Items 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 + 11) / 10	16	3.65	0.62
Currently Experienced Growth = (Items 12 + 13 + 15 + 16 + 17 + 18) / 6	16	3.65	1.02
Currently Experienced Depletion = (Items 14 + 19 + 20 + 21) / 4	16	0.42	0.43
Motivation to Develop = Item 22	16	4.38	1.15
<u>Self-Assessment of Effectiveness</u>			
<i>First Year of Practice</i>			
Estimated Effectiveness (%)	15	56.07	19.72
Got Better (i.e., experience significant symptom reduction) (%)	15	65.80	13.89
Stayed The Same (%)	15	21.73	12.54
Got Worse (%)	12	3.42	5.58
Dropped Out (i.e., stopped therapy before experiencing positive change) (%)	15	12.40	12.26
Cannot Judge (%)	12	13.17	28.18
Work Alliance Ability (%)	16	63.88	17.52
<i>Current Year of Practice</i>			
Estimated Effectiveness (%)	16	70.88	17.38
Got Better (i.e., experienced significant symptom reduction) (%)	16	76.06	11.06
Stayed the Same (%)	16	11.25	10.71
Got Worse (%)	13	1.54	1.90
Dropped Out (i.e., stopped therapy before experiencing positive change) (%)	15	8.60	8.77
Cannot Judge (%)	12	7.58	10.77
Working Alliance Ability (%)	15	75.87	17.48
<u>Dweck's Mindset Questionnaire</u>			
Dweck's Fixed Mindset: Total of (Q1, Q2, Q4. & Q6) / 4 (overall 3.0 or below=Fixed Mindset)	17	4.81	0.90

Dweck's Growth Mindset: Total of (Q3, Q5, Q7, Q 8) /4	17	2.74	0.77
	<i>N</i>	<i>Mean</i>	<i>SD</i>
<b>Therapists' Mindset Questionnaire (TMQ)</b>			
Fixed Mindset: Believes About Ability (Questions 1,2,3,5,6,7,9,10,12,14)	17	2.84	0.49
Growth Mindset: Believes About Ability (Questions 4, 8, 11, 13)	17	3.93	0.57
Fixed Mindset: Challenges & Obstacles (Questions 18, 19, 20, 21, 23, 24, 25, 26, 27)	17	2.71	0.30
Growth Mindset: Challenges & Obstacles (Questions 15, 16, 17, 22, 28)	17	3.59	0.48
Fixed Mindset: Effort (Question 32)	17	2.24	0.56
Growth Mindset: Effort (Questions 29, 30, 31, 33, 34, 35, 36)	17	3.50	0.46
Fixed Mindset: Criticism (Questions 37, 38, 40)	17	1.82	0.52
Growth Mindset: Criticism (Question 39)	17	4.18	0.73
Fixed Mindset: Success of Others (Questions 41,43)	17	2.15	0.81
Growth Mindset: Success of Others (Questions 42, 44)	17	3.82	0.68
TMQ Fixed Mindset Total Average	17	2.59	0.30
TMQ Growth Mindset Total Average	17	3.68	0.35

Table G3

*Fixed Effects for Multilevel Models in Study II: Amount of time Spent on Each of the 10 Solitary Therapy Activities*

Variable	Amount of Time Spent on Each of 10 Solitary Therapy Activities		
	Est.	<i>SE</i>	<i>p</i>
Fixed Effects			
Predictors			
(a) Reading psychotherapy and counselling journals	-0.01	0.01	.270
(b) Reading about core counselling and therapeutic skills in psychotherapy	0.002	0.01	.754
(c) Reviewing therapy recordings	-0.10	0.11	.374
(d) Reviewing difficult/challenging cases	-0.02	0.03	.406
(e) Reflecting on past sessions	-0.04	0.03	.101
(f) Reflecting on what to do in future sessions	0.001	0.004	.752
(g) Writing down reflections of previous sessions	-0.02	0.01	.153
(h) Writing down plans for future sessions	-0.01	0.02	.560
(i) Viewing master therapist videos with the aims of developing specific therapist skills	0.02	0.08	.762
(j) Reading case studies	0.02	0.07	.771

Note. All predictors were grand mean centered. Est. = coefficient estimates; SE = standard error of mean; *p* = significance value

Table G4

*Fixed Effects for Multilevel Models in Study II: Amount of time Spent on Each of the Nine Non-Solitary Therapy Activities*

Variable	Amount of Time Spent on Each of Nine Non-Solitary Therapy Activities		
	Est.	SE	<i>p</i>
Fixed Effects			
Predictors			
(a) General clinical supervision as a supervisee <i>without</i> review of audio/visual recordings of sessions	0.01	0.07	.900
(b) Clinical supervision as a supervisee <i>with</i> review of audio/visual recordings of sessions	0 <sup>a</sup>	-	-
(c) Clinical supervision as a supervisee reviewing challenging cases or cases with no improvement	0.08	0.10	.414
(d) Live supervision provided during sessions as co-therapist	0 <sup>a</sup>	-	-
(e) Focused learning in specific models of psychotherapy	0.01	0.3	.837
(f) Reviewing recordings of therapy sessions with peers	-0.17	0.12	.158
(g) Attending training workshops for specific models of therapy	0.000	0.01	.989
(h) Case discussions with a clinical supervisor	-0.01	0.03	.669
(i) Discussions of psychotherapy related subjects with peers or mentors	-0.01	0.1	.433

Note. <sup>a</sup> could not be analysed due to zero variance (all therapists responding with a zero). All predictors were grand mean centered. Est. = coefficient estimates; SE = standard error of mean; *p* = significance value.

Table G5

*Fixed Effects for Multilevel Models in Study II: Amount of Time Spent on Each of the Five Non-Therapy Related Activities (5 predictors).*

Variable	Amount of Time Spent on Each of 10 Solitary Therapy Activities		
	Est.	SE	p
Fixed Effects			
Predictors			
(a) Self-care activities and tending to emotional needs	0.01	0.003	<b>.031*</b>
(b) Socialising	0.001	0.003	.563
(c) Exercising	0.002	0.003	.643
(d) Rest (e.g., naps in the day, going for a walk, engaging in a non-therapeutic activity that is enjoyable)	-0.002	0.003	.692
(e) Others	0.002	0.002	.128

Table G6

*Fixed Effects for Multilevel Models in Study II: Number of Times Each of the Five Types of Feedback Elicited from Clients*

Variable	Number of Times Each of the Five Types of Feedback Elicited from Clients*		
	Est.	SE	p
Fixed Effects			
Predictors			
(a) Feedback formally elicited	0.002	0.01	.826
(b) Feedback informally elicited	-0.01	0.01	.660
(c) Surprised by client's feedback	-0.13	0.04	<b>&lt;.001*</b>
(d) Using formal feedback (e.g. CORE/OQ/SRS) to compare and contrast my assessment with the client's view of progress	0.002	0.01	.887
(e) Perceived formal client's feedback as not credible	0.02	0.02	.128

Note. \* Number of clients, out of 10, in the last typical work week.

Table G7

*Fixed Effects for Multilevel Models in Study II: 11 Component Scales of Psychotherapists'*

*Work Involvement Scales*

		<i>11 Component Scales of Psychotherapists' Work Involvement Scales</i>		
Variable		Est.	SE	p
Fixed Effects				
Predictors				
Basic Relational Skills		0.000	0.02	.985
Invested		0.03	0.02	.077
Efficacy		0.02	0.02	.180
Affirming		0.05	0.02	<b>.025*</b>
Flow		0.03	0.02	.148
Constructive Coping		0.01	0.01	.598
Difficulties in Practice		0.01	0.01	.136
Boredom		-0.001	0.03	.966
Anxiety		0.000	0.03	.991
Avoidant Coping		-0.003	0.01	.758
Net Work Satisfaction		0.02	0.02	.302

Table G8

*Fixed Effects for Multilevel Models in Study II: 4 Component Scales of Psychotherapists'*

*Professional Development Scales*

		<i>4 Component Scales of Psychotherapists' Professional Development Scales</i>		
Variable		Est.	SE	p
Fixed Effects				
Predictors				
Overall Career Development		0.03	0.07	.618
Currently Experiencing Growth		0.05	0.03	.160
Currently Experiencing Depletion		-0.04	0.10	.693
Motivation to Develop		0.004	0.033	.897

Table G9

*Fixed Effects for Multilevel Models in Study II: 11 Self-Assessment of Effectiveness (First Year and Current Year of Practice)*

Variable	<i>Self-Assessment of Effectiveness: First Year</i>			<i>Self-Assessment of Effectiveness: Current Year of Clinical Practice</i>		
	Est.	SE	<i>p</i>	Est.	SE	<i>p</i>
Fixed Effects						
Predictors						
(a) Level of Effectiveness	-0.001	0.002	.498	-0.002	0.002	.373
(b) The proportion of clients who got better	-0.003	0.003	.304	-0.001	0.004	.820
(c) The proportion of clients who stayed the same	0.002	0.003	.590	0.005	0.004	.127
(d) The proportion of clients who got worse	-0.003	0.008	.714	0.013	0.02	.558
(e) The proportion of clients who dropped out of treatment	0.001	0.004	.697	0.004	0.005	.394
(f) The proportion of clients of whom they are unable to judge	-0.000	0.002	.917	-0.003	0.005	.560
(g) Working alliance ability	-0.004	0.002	.037*	-0.000	0.002	.865

Tables G10

*Self-Assessment Descriptive Statistics*

Statistics						
	Estimated Effectiveness at First year of Practice (%)	First year of practice Got Better (i.e., experience significant symptom reduction) (%)	First year of practice Stayed The Same (%)	First year of practice Got Worse (%)	First year of practice Dropped Out (i.e., stopped therapy before experiencing positive change) (%)	First year of practice Cannot Judge (%)
N (valid)	16	15	15	12	15	12
Missing	1	2	2	5	2	5
Mean	52.56	65.80	21.73	3.42	12.40	13.17
Std. Deviation	23.65	13.89	12.54	5.58	12.26	28.18

Statistics						
	Work Alliance Ability in First Year of Practice (%)	Current Estimated Effectiveness (%)	Currently, Got Better (i.e., experienced significant symptom reduction) (%)	Currently, Stayed the Same (%)	Currently, Got Worse (%)	Currently, Dropped Out (i.e., stopped therapy before experiencing positive change) (%)
N (valid)	16	16	16	16	13	15
Missing	1	1	1	1	4	2
Mean	63.88	70.88	76.06	11.25	1.54	8.60
Std. Deviation	17.52	17.38	11.06	10.71	1.90	8.77

Statistics		
	Currently, Cannot Judge (%)	Current Working Alliance Ability (%)
N (valid)	12	15
Missing	5	2
Mean	7.58	75.87
Std. Deviation	10.77	17.48



**Frequency Table**

Estimated Effectiveness at First year of Practice (%) 25%=Below Average, 50%=Average,75%=Above Average					
			Valid		
	Frequency	Percent	Percent	Cumulative Percent	
Valid	.00	1	5.9	6.3	6.3
	22.00	1	5.9	6.3	12.5
	40.00	2	11.8	12.5	25.0
	49.00	5	29.4	31.3	56.3
	50.00	2	11.8	12.5	68.8
	59.00	1	5.9	6.3	75.0
	75.00	1	5.9	6.3	81.3
	80.00	2	11.8	12.5	93.8
	100.00	1	5.9	6.3	100.0
	Total	16	94.1	100.0	
Missing	System	1	5.9		
Total		17	100.0		

First year of practice Got Better (i.e., experience significant symptom reduction) (%) 25%=Below Average, 50%=Average,75%=Above Average					
			Valid		
	Frequency	Percent	Percent	Cumulative Percent	
Valid	35.00	1	5.9	6.7	6.7
	50.00	2	11.8	13.3	20.0
	59.00	1	5.9	6.7	26.7
	61.00	1	5.9	6.7	33.3
	67.00	1	5.9	6.7	40.0
	68.00	1	5.9	6.7	46.7
	70.00	4	23.5	26.7	73.3
	71.00	1	5.9	6.7	80.0
	75.00	2	11.8	13.3	93.3
	96.00	1	5.9	6.7	100.0
	Total	15	88.2	100.0	
Missing	System	2	11.8		
Total		17	100.0		

First year of practice Stayed The Same (%) 25%=Below Average, 50%=Average,75%=Above Average					
			Valid		
	Frequency	Percent	Percent	Cumulative Percent	
Valid	.00	1	5.9	6.7	6.7
	2.00	1	5.9	6.7	13.3
	11.00	1	5.9	6.7	20.0
	15.00	1	5.9	6.7	26.7
	19.00	2	11.8	13.3	40.0
	20.00	2	11.8	13.3	53.3
	22.00	1	5.9	6.7	60.0
	25.00	1	5.9	6.7	66.7
	29.00	2	11.8	13.3	80.0
	30.00	1	5.9	6.7	86.7
	35.00	1	5.9	6.7	93.3

	50.00	1	5.9	6.7	100.0
Missing	Total	15	88.2	100.0	
Total	System	2	11.8		
	17	100.0			

First year of practice Got Worse (%) 25%=Below Average, 50%=Average,75%=Above Average					
	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	.00	6	35.3	50.0	50.0
	1.00	1	5.9	8.3	58.3
	4.00	2	11.8	16.7	75.0
	5.00	1	5.9	8.3	83.3
	8.00	1	5.9	8.3	91.7
	19.00	1	5.9	8.3	100.0
Missing	Total	12	70.6	100.0	
Total	System	5	29.4		
	17	100.0			

First year of practice Dropped Out (i.e., stopped therapy before experiencing positive change) (%) 25%=Below Average, 50%=Average,75%=Above Average					
	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	.00	2	11.8	13.3	13.3
	1.00	1	5.9	6.7	20.0
	4.00	1	5.9	6.7	26.7
	5.00	2	11.8	13.3	40.0
	8.00	1	5.9	6.7	46.7
	9.00	1	5.9	6.7	53.3
	10.00	3	17.6	20.0	73.3
	26.00	1	5.9	6.7	80.0
	29.00	1	5.9	6.7	86.7
	34.00	1	5.9	6.7	93.3
	35.00	1	5.9	6.7	100.0
Missing	Total	15	88.2	100.0	
Total	System	2	11.8		
	17	100.0			

First year of practice Cannot Judge (%) 25%=Below Average, 50%=Average,75%=Above Average					
	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	.00	4	23.5	33.3	33.3
	1.00	2	11.8	16.7	50.0
	6.00	2	11.8	16.7	66.7
	8.00	1	5.9	8.3	75.0
	14.00	1	5.9	8.3	83.3
	22.00	1	5.9	8.3	91.7
	100.00	1	5.9	8.3	100.0
Missing	Total	12	70.6	100.0	
Total	System	5	29.4		
	17	100.0			

Work Alliance Ability in First Year of Practice (%)					
		Valid		Cumulative Percent	
	Frequency	Percent	Percent		
Valid	36.00	1	5.9	6.3	6.3
	40.00	1	5.9	6.3	12.5
	49.00	1	5.9	6.3	18.8
	50.00	2	11.8	12.5	31.3
	55.00	1	5.9	6.3	37.5
	58.00	1	5.9	6.3	43.8
	59.00	1	5.9	6.3	50.0
	62.00	1	5.9	6.3	56.3
	70.00	2	11.8	12.5	68.8
	73.00	1	5.9	6.3	75.0
	81.00	1	5.9	6.3	81.3
	86.00	1	5.9	6.3	87.5
	87.00	1	5.9	6.3	93.8
	96.00	1	5.9	6.3	100.0
	Total	16	94.1	100.0	
Missing	System	1	5.9		
Total		17	100.0		

Current Estimated Effectiveness (%) 25%=Below Average, 50%=Average,75%=Above Average					
		Valid		Cumulative Percent	
	Frequency	Percent	Percent		
Valid	50.00	4	23.5	25.0	25.0
	55.00	1	5.9	6.3	31.3
	59.00	1	5.9	6.3	37.5
	61.00	1	5.9	6.3	43.8
	70.00	1	5.9	6.3	50.0
	75.00	1	5.9	6.3	56.3
	79.00	1	5.9	6.3	62.5
	80.00	1	5.9	6.3	68.8
	86.00	1	5.9	6.3	75.0
	87.00	1	5.9	6.3	81.3
	91.00	1	5.9	6.3	87.5
	92.00	1	5.9	6.3	93.8
	99.00	1	5.9	6.3	100.0
	Total	16	94.1	100.0	
Missing	System	1	5.9		
Total		17	100.0		

Currently, Got Better (i.e., experienced significant symptom reduction) (%) 25%=Below Average, 50%=Average,75%=Above Average					
		Valid		Cumulative Percent	
	Frequency	Percent	Percent		
Valid	59.00	1	5.9	6.3	6.3
	60.00	1	5.9	6.3	12.5
	61.00	1	5.9	6.3	18.8
	70.00	2	11.8	12.5	31.3
	71.00	2	11.8	12.5	43.8
	73.00	1	5.9	6.3	50.0
	78.00	1	5.9	6.3	56.3
	80.00	2	11.8	12.5	68.8
	81.00	1	5.9	6.3	75.0
	90.00	2	11.8	12.5	87.5
	91.00	1	5.9	6.3	93.8
	92.00	1	5.9	6.3	100.0
	Total	16	94.1	100.0	
Missing	System	1	5.9		
Total		17	100.0		

Currently, Stayed the Same (%) 25%=Below Average, 50%=Average,75%=Above Average					
		Valid		Cumulative Percent	
	Frequency	Percent	Percent		
Valid	.00	3	17.6	18.8	18.8
	4.00	1	5.9	6.3	25.0
	6.00	1	5.9	6.3	31.3
	9.00	3	17.6	18.8	50.0
	10.00	4	23.5	25.0	75.0
	13.00	1	5.9	6.3	81.3
	21.00	1	5.9	6.3	87.5
	29.00	1	5.9	6.3	93.8
	40.00	1	5.9	6.3	100.0
	Total	16	94.1	100.0	
Missing	System	1	5.9		
Total		17	100.0		

Currently, Got Worse (%) 25%=Below Average, 50%=Average,75%=Above Average					
		Valid		Cumulative Percent	
	Frequency	Percent	Percent		
Valid	.00	5	29.4	38.5	38.5
	1.00	4	23.5	30.8	69.2
	2.00	1	5.9	7.7	76.9
	4.00	1	5.9	7.7	84.6
	5.00	2	11.8	15.4	100.0
	Total	13	76.5	100.0	
Missing	System	4	23.5		
Total		17	100.0		

Currently, Dropped Out (i.e., stopped therapy before experiencing positive change) (%)					
25%=Below Average, 50%=Average,75%=Above Average					
		Valid			
	Frequency	Percent	Percent	Cumulative Percent	
Valid	.00	2	11.8	13.3	13.3
	2.00	2	11.8	13.3	26.7
	3.00	1	5.9	6.7	33.3
	5.00	2	11.8	13.3	46.7
	8.00	1	5.9	6.7	53.3
	10.00	5	29.4	33.3	86.7
	20.00	1	5.9	6.7	93.3
	34.00	1	5.9	6.7	100.0
	Total	15	88.2	100.0	
Missing	System	2	11.8		
Total		17	100.0		

Currently, Cannot Judge (%) 25%=Below Average, 50%=Average,75%=Above Average					
		Valid			
	Frequency	Percent	Percent	Cumulative Percent	
Valid	.00	4	23.5	33.3	33.3
	1.00	1	5.9	8.3	41.7
	3.00	1	5.9	8.3	50.0
	5.00	2	11.8	16.7	66.7
	8.00	1	5.9	8.3	75.0
	10.00	1	5.9	8.3	83.3
	29.00	1	5.9	8.3	91.7
	30.00	1	5.9	8.3	100.0
	Total	12	70.6	100.0	
Missing	System	5	29.4		
Total		17	100.0		

Current Working Alliance Ability (%) 25%=Below Average, 50%=Average,75%=Above Average					
		Valid			
	Frequency	Percent	Percent	Cumulative Percent	
Valid	50.00	2	11.8	13.3	13.3
	51.00	1	5.9	6.7	20.0
	56.00	1	5.9	6.7	26.7
	59.00	1	5.9	6.7	33.3
	80.00	1	5.9	6.7	40.0
	81.00	2	11.8	13.3	53.3
	85.00	3	17.6	20.0	73.3
	89.00	1	5.9	6.7	80.0
	93.00	1	5.9	6.7	86.7
	95.00	1	5.9	6.7	93.3
	98.00	1	5.9	6.7	100.0
	Total	15	88.2	100.0	
Missing	System	2	11.8		
Total		17	100.0		

Table G11

*Fixed Effects for Multilevel Models in Study II: Therapist Mindset Questionnaire (TMQ)*

Variable	<i>Therapist Mindset Questionnaire (TMQ)</i>		
	Est.	SE	<i>p</i>
Fixed Effects			
Predictors			
Growth Mindset: Beliefs about Ability	0.022	0.078	.774
Fixed Mindset: Beliefs about Ability	-0.014	0.087	.875
Growth Mindset: Challenges and observations	0.012	0.089	.892
Fixed Mindset Challenges and observations	0.127	0.143	.375
Growth Mindset: Effort	0.017	0.047	.722
Fixed Mindset Effort	0.062	0.056	.272
Growth Mindset: Criticism	0.031	0.058	.587
Fixed Mindset Criticism	0.014	0.089	.875
Growth Mindset: Success of others	0.026	0.065	.690
Fixed Mindset: Success of others	0.001	0.053	.979

Table G12

Dweck's Mindset and Therapist Mindset Questionnaire (TMQ) Spearman's Nonparametric Correlations

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Dweck's Fixed Mindset	-													
2. Dweck's Growth Mindset	-.657**	-												
3. TMQ: Beliefs About Ability (Fixed)	-.313	.217	-											
4. TMQ: Beliefs About Ability (Growth)	.399	-.559*	-.443	-										
5. TMQ: Challenges & Obstacles (Fixed)	-.365	-.093	-.129	.143	-									
6. TMQ: Challenges & Obstacles (Growth)	.295	-.473	.102	.398	.134	-								
7. TMQ: Effort (Fixed)	-.376	.361	.539*	-.485*	.059	-.063	-							

8. TMQ: Effort (Growth)	.152	-.207	-.381	.245	.397	.232	-.317	-						
9. TMQ: Criticism (Fixed)	.141	-.263	.224	-.071	.266	.125	-.131	.151	-					
10. TMQ: Criticism (Growth)	.037	-.265	-.395	.284	.092	.221	-.079	.345	-.623**	-				
11. TMQ: Success of Others (Fixed)	-.305	.081	.309	-.159	.088	-.162	-.188	.123	.308	-.226	-			
12. TMQ: Success of Others (Growth)	-.102	.017	-.383	.092	.680**	-.071	-.12	.182	.207	-.192	.048	-		
13. TMQ: Total Fixed Mindset	-.369	.224	.864**	-.371	.168	.162	.281	-.125	.522*	-.566*	.516*	-.096	-	
14. TMQ: Total Growth Mindset	.253	-.467	-.358	.679**	.355	.683**	-.463	.733**	.030	.409	.024	.172	.131	-

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).