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PROFESSIONAL AND PERSONAL HUMILITY IN RELATION TO BETWEEN-THERAPIST DIFFERENCES IN EFFECTIVENESS

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Professional and Personal Humility in Relation to Between-therapist Differences in
Effectiveness

A Dissertation Presented

by

HEATHER J. MUIR

Submitted to the Graduate School of the
University of Massachusetts Amherst in partial fulfillment
of the requirements for the degree of

DOCTOR OF PHILOSOPHY

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Psychological and Brain Sciences
Clinical Psychology

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A Dissertation Presented

by

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DEDICATION

In loving memory of Andrew P. Minigan, Ed.D., for the both of us

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I would not have made it to this point without the support of a few important people I would like to acknowledge. First, I would like to thank my parents for their abundant, unwavering belief in me and for instilling in me the values of education, openness, and flexibility. I would also like to thank my brother, Hunter, who consistently reminded me of the importance of getting out into nature and experiencing life (literally) outside of graduate school. Words truly cannot express how grateful I am to have a strong and reliable family I could turn to during the most difficult of times. Thank you for being endless sources of strength and encouragement throughout my life, and especially over the last six years.

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ABSTRACT

PROFESSIONAL AND PERSONAL HUMILITY IN RELATION TO BETWEEN-
THERAPIST DIFFERENCES IN EFFECTIVENESS

SEPTEMBER 2023

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Objective: Research demonstrates that mental health clinicians vary in their general effectiveness—the “between-therapist effect.” Thus, it is important to identify determinants of such differences in order to understand and cultivate the therapist characteristics or actions that reliably foster better patient outcomes. To date, several of such variables have emerged empirically. For example, therapists who exhibit higher versus lower levels of professional self-doubt (PSD; a critical questioning of one’s skills as a clinician) have been shown to achieve better interpersonal outcomes with their average patient. Although arguably counterintuitive, the beneficial influence of PSD may make sense if, instead of simply reflecting a negative self-perception, it taps into the broader construct of professional *humility*; that is, the adaptive ability to maintain a balanced and accurate view of one’s strengths and weaknesses in their clinical practice. However, no research exists that directly tests (vs. infers from PSD) this professional humility hypothesis. Additionally, drawing on the broader positive psychology literature, it is possible that therapists who possess more versus less trait-like *personal* humility, or one’s balanced view of their general virtues and shortcomings coupled with an other- versus self-focused attitude, would also be generally more effective in their practice. To date, though, little

research has examined personal humility as a determinant of therapist effectiveness differences. Addressing these gaps, I respectively examined across two studies the professional and personal humility constructs in relation to therapist performance in naturalistic practice. In the first study, I drew on archival therapist and patient data to test therapists' professional humility (viz. the degree of under versus overestimation of one's measurement-based and problem-specific effectiveness, as assessed with a patient-reported multidimensional routine outcomes measure) as a predictor of between-therapist differences in their average patient's global treatment outcome. In the second study, I prospectively collected therapist data and drew on archival patient data to test therapists' self-reported personal humility as a predictor of their global effectiveness differences. I hypothesized that each humility type would be positively associated with therapist-level patient improvement. **Method:** Study 1 included 50 community therapists who delivered treatment as usual (TAU) to 1,363 patients. Without any awareness of their measurement-derived effectiveness, therapists completed a survey of their self-perceived effectiveness in treating 12 presenting-problem domains (e.g., depression, substance misuse). I then derived the professional humility index by comparing these perceptions with a patient-reported, data-driven index of their effectiveness in each domain—this allowed me to determine the degree which therapists over-, under-, and accurately estimated their measurement-based clinical performance (both within specific domains and across them). The patient-reported outcomes data also provided a measure of global outcome measure at pre and posttreatment. Study 2 included a distinct sample of 43 therapists and 289 of their patients who again received TAU in 1 of 3 community mental health care centers. Therapists completed a measure of personal relational humility, and patients had completed a global outcome measure at pre and posttreatment. **Results:** In Study 1, as hypothesized, greater therapist *underestimation* of their problem-specific effectiveness was

associated with greater global improvement across their patients. In Study 2, counter to my prediction, therapist personal humility was unrelated to their patients' outcomes. **Conclusions:** Humility specific to one's clinical effectiveness may represent a key determinant of the therapist effect; therefore, cultivating this professional form of humility could become a focus of clinical training. However, the influence of *personal* humility on therapist performance may be less relevant, or it may require measuring this virtue with a method other than therapist self-report.

Keywords: between-therapist effects, professional humility, personal humility, patient psychotherapy outcomes

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CHAPTER I

INTRODUCTION

Although psychotherapy is *generally* efficacious (Barkham & Lambert, 2021), there remains substantial room for improvement. Specifically, over 40% of patients who receive psychosocial treatment fail to benefit meaningfully, whereas another 10-15% actually deteriorate (Kraus et al., 2011; Lambert, 2010). Moreover, such variability in patients' outcomes does not owe solely to the treatments they receive. Rather, research has revealed consistent and robust differences between mental health care providers in their overall effectiveness, irrespective of the treatments they deliver, with systematic reviews (Johns et al., 2019) and meta-analyses (Baldwin & Imel, 2013) revealing that the therapist explains an average of about 5% of variance in patient outcomes.

Highlighting their reach, therapist effects have been observed both in naturalistic settings (for which treatment is unmanipulated) and in the context of randomized controlled trials (RCTs) when therapists are practicing according to standardized treatment manuals (Baldwin & Imel, 2013; Johns et al., 2019). Moreover, between-therapist effects exist both for global symptomatic/functional outcomes and more circumscribed outcomes (e.g., posttraumatic stress, depression), and they hold even when adjusting for patient case-mix factors known to influence treatment outcomes (see Coyne, 2024). Finally, accentuating their clinical meaningfulness, patients treated by above average therapists are about two times more likely to improve than those treated by below average therapists (Firth et al., 2015; Saxon & Barkham, 2012).

In light of this evolving research base, it seems important to identify determinants of between-therapist effectiveness differences in order to cultivate the therapist characteristics

or actions that reliably foster better outcomes across their patients (Constantino et al., 2017). To date, though, such provider-centered research remains in its relative infancy (Wampold & Owen, 2021). That being said, a few variables have preliminarily emerged as predictors of generally better versus worse performing therapists.

One such construct is therapist professional self-doubt (PSD), or a self-critical stance marked by questioning one's abilities to foster adaptive therapy processes and outcomes (Nissen-Lie et al., 2010). In a naturalistic study of 70 therapists and 255 patients, the average patient of therapists who reported higher versus lower PSD reported greater reductions in their interpersonal distress (Nissen-Lie et al., 2013). In a subsequent study using the same dataset, this research team also found that therapist self-affiliation moderated the PSD-interpersonal distress link; namely, the beneficial influence of higher PSD was more pronounced when the therapist was also more *generally* self-loving and accepting (Nissen-Lie et al., 2017). Notably, though, across both studies, the significant main and interactive effects of therapist PSD were restricted to patient interpersonal distress as the outcome variable. The findings did not replicate with the outcome of global psychosocial functioning and symptom distress.

Further muddying the waters, other studies examining therapist PSD as a determinant of therapist-level patient outcomes have yielded mixed results. For example, whereas one study of 40 trainee therapists treating 621 patients demonstrated that higher therapist PSD was similarly unrelated to patients' symptomatic outcomes, it was unexpectedly associated with *higher* levels of patients' interpersonal problems (Odyniec et al., 2017). In contrast, a study of 46 therapists and 1,817 patients within a multisite community behavioral health organization demonstrated that greater therapist PSD *was* associated better symptomatic

outcomes, though only to a marginal degree and when controlling for the effect of therapists' overall counseling self-efficacy (Clements-Hickman & Reese, 2022).

These mixed and sometimes contradictory results underscore the need for more conceptual and empirical work on the therapist PSD construct, especially as a predictor of between-therapist effectiveness differences. For example, it is plausible that when higher PSD relates positively to therapist-level patient outcomes (at least with more experienced clinicians; Nissen-Lie et al., 2013, 2017; Clements-Hickman & Reese, 2022)—an arguably counterintuitive effect—it may be tapping into more than a simple critical self-perception. That is, higher PSD could at least partially reflect a broader construct of professional *humility*, or the adaptive ability to maintain a balanced and accurate (or even somewhat cautious/modest) view of one's strengths and weaknesses in the inherently complex and challenging practice of psychotherapy. However, no research exists that directly tests (vs. infers from the PSD construct) this professional humility hypothesis. Plausibly, more fully capturing therapist humility (i.e., beyond the circumscribed self-criticalness of PSD) could render a positive association with therapist-level patient improvement that is stronger and more consistent.

Although measuring therapist professional humility could come in different guises, one recent study provided a multipart methodological template for the present research to address this gap. Namely, in the first part, Constantino, Coyne et al. (2021) drew on a sample of 50 therapists administering naturalistic treatment to over 1,000 patients to examine the associations between therapists' *self-perceptions* of their effectiveness in treating patients with different presenting problems and their *actual*, measurement-based and problem-specific effectiveness based on patient responses to a routine multidimensional outcomes

measure—the *Treatment Outcome Package* (TOP; Kraus et al., 2005). (The TOP assesses the following 12 outcome domains, for each of which the therapists rated their self-perceived effectiveness: depression, quality of life, mania, panic or somatic anxiety, psychosis, substance misuse, social conflict, sexual functioning, sleep, suicidality, violence, and work functioning.) More specifically, to classify therapists’ measurement-based, problem-specific effectiveness, Constantino, Coyne et al. (2021) followed a previously established multistep method. First, in a large reference sample of approximately 28,000 patients who received naturalistic psychotherapy in various clinical settings across the country, Kraus et al. (2011, 2016) used machine learning to develop an algorithm that empirically determined, for each TOP outcome domain, expected rates of change based on key patient characteristics (e.g., demographics) and case-mix factors (e.g., problem-specific or general symptom severity, life stressors). Second, for any new patient (outside of the original reference sample, such as those in the Constantino, Coyne et al. sample), the algorithm compares their personal and actuarially expected outcome to their actual measured outcome on each of the 12 TOP domains. Finally, to assess *therapist*-level performance, Constantino, Coyne et al. calculated a confidence interval (CI) for patients’ average difference from their expected/predicted outcomes for each TOP domain. Using this method, and based on data from at least 15 of their patients, the authors classified the aforementioned 50 therapists as “effective” (i.e., their average patient reliably exceeded their expected outcome CI for a given domain), “neutral” (i.e., their average patient’s outcome was within the expected outcome CI for a given domain), or “ineffective” (i.e., their average patient fell short of their expected outcome CI for a given domain).

Next, in the second part of their method, Constantino, Coyne et al. (2021) measured therapists' self-perceived problem-specific effectiveness with a study-specific measure—the *Therapist Perceived Strengths* inventory (TPS; Constantino, Boswell et al., 2021). On the TPS, therapists rated their own effectiveness on a 7-point scale from “always ineffective” to “always effective” in treating their patients with a problem that mapped onto the 12 TOP domains (e.g., “In treating my clients’ symptoms of depression, I would say that I am...”). Importantly, they made these ratings with no knowledge of their measurement-based historical performance in these problem areas.

Based on these novel assessments of measurement-based and self-perceived therapist performance, respectively, results indicated that, across all but one TOP outcome domain, therapists were no better than chance at predicting their measurement-based effectiveness classification (Constantino, Coyne et al., 2021). Moreover, for roughly half of the TOP domains, the majority of therapists *overestimated* their own effectiveness. Additionally, there were no domains for which the majority of therapists *underestimated* their effectiveness, which is consistent with prior survey research indicating that therapists tend to show an overconfidence bias (Walfish et al., 2012). That being said, therapists in the Constantino, Coyne et al. study varied in their under, over, and accurate estimation of their measurement-based, problem-specific effectiveness, which renders this estimation index (when averaged across the 12 TOP domains) a methodologically sound therapist-level predictor variable that arguably captures the individual-differences construct of professional humility. Thus, as further discussed below, I adopted this measurement strategy in the present research to examine professional humility in relation to between-therapist differences in overall effectiveness.

Notably, though, therapist humility in other forms may also have clinical relevance. For example, drawing on the broader positive psychology literature (Jankowski et al., 2020), it is possible that therapists who possess more versus less trait-like *personal* humility, or one's balanced view of their general virtues and shortcomings combined with an other-versus self-focused attitude (Davis et al., 2011), would be generally more effective in their practice. Indirectly supporting this notion for the psychotherapy context, such personal humility of one individual has a well-established beneficial effect on one or more other individuals across a variety of other contexts, including organizational settings, interpersonal relationships, and medicine.

Regarding organizational settings, one study that drew on both lab and field samples demonstrated that leaders whose employees perceived as possessing higher expressed humility (i.e., a tendency to seek feedback and learn from others, and to value others' strengths) tended to foster greater engagement and job satisfaction in those employees, as well as better individual- and team-level performance (Owens et al., 2013). Moreover, organizational leaders with greater other-rated (i.e., by peers, employees) humility have been shown to foster more team effectiveness (Rego et al., 2018), employee feedback-seeking (Qian et al., 2018), and employee voice (i.e., expression of constructive challenge versus nonconstructive criticism; Li et al., 2019). Finally, CEOs with greater other-rated humility have been shown to lead higher-performing companies overall (Collins, 2001; Ou et al., 2015).

Regarding interpersonal relationships, one lab study demonstrated that higher participant self-reported humility was associated with more acts of generosity toward acquaintances (e.g., donating money, completing extra research surveys without promise of

compensation; Exline & Hill, 2012). Relatedly, one's self-reported humility was also positively associated with their ability to receive kindness from important others (Exline, 2012). Additionally, even in the context of two strangers in a lab setting, higher levels of one individual's humility (as per both self-report and implicit measures) were associated with more third-party-observed helpful behaviors toward the other stranger (LaBouff et al., 2012). In romantic relationships, an actor perceiving their partner as humbler has been positively associated with the actor's relationship satisfaction and commitment (Dwiwardani et al., 2017; Farrell et al., 2015). Moreover, higher perceived humility in one's partner has been shown to protect the actor against the negative experiences of marital stress and unforgiveness (Goddard et al., 2016; Van Tongeran et al., 2014).

Regarding medicine, one study found that patients seen by physicians who independent observers rated as more versus less humble reported more positive health outcomes and more effective physician-patient communication, controlling for both patient and physician satisfaction with the visit and level of physician frustration (Ruberton et al., 2016). Another study demonstrated that greater patient-rated physician humility associated with more positive patient-reported health status, satisfaction with the visit, and trust in their physician (Huynh & Dicke-Bohmann, 2020).

In sum, the overall pattern of results across various contexts suggests that a personally humbler attitude of one individual can have a beneficial effect on others for various important and beneficial outcomes. To date, though, little research has explicitly examined personal humility in the psychotherapy realm, including as a determinant of therapist effectiveness differences. In fact, I am aware of only one such study. Specifically, in the aforementioned Clements-Hickman and Reese (2022) study, the researchers examined

therapist self-reported *expressed* humility as a predictor of their overall between-therapist effectiveness differences in naturalistically administered psychotherapy with adult patients within a community behavioral health organization. This type of humility—which, as previously noted, represents a willingness to seek feedback from others (even if critical), learn from others, and appreciate others’ strengths and contributions (see Owens et al., 2013)—was unrelated to patient improvement at the therapist-level.

Although these results seem to contradict the relatively large literature that has established the benefits of humility in other contexts, one potential explanation is that the measure of expressed humility lacked an explicit focus on this virtue’s core trait-like, *relational* element; that is, possessing an other- versus self-focused attitude in relationships both outside and inside of the therapy context. Thus, novel and specific research on a therapist’s relational humility is sorely needed. Addressing this gap, the present research also explored this form of humility as a predictor of between-therapist effectiveness differences in naturalistic outpatient therapy.

More specially, I respectively addressed each of the aforementioned two gaps in the therapist humility literature in a distinct study in the context of naturalistically administered community psychotherapy with adult outpatients. In the first study, I drew on Constantino, Coyne et al.’s (2021) archived dataset to test, for the first time, therapists’ professional humility (*viz.* the degree of under versus overestimation of one’s problem-specific and measurement-based effectiveness, as assessed with a patient-reported multidimensional routine outcomes measure) as a predictor of between-therapist differences in their average patient’s global treatment outcome. (For this study, it was important to use the same therapist sample as Constantino, Coyne et al., as their method of assessing the measurement-based

accuracy of therapists' self-perceptions of their problem-specific effectiveness required the use of the aforementioned machine learning-derived effectiveness classifications of effective, neutral, and ineffective.) Consistent with Nissen-Lie et al.'s (2013, 2017) findings on experienced therapists' PSD, I hypothesized that clinicians with higher versus lower professional humility (i.e., those who tended to under- versus over-estimate their own measurement-based effectiveness) would have better caseload-level patient outcome (though, in this case, with a global index of symptoms/functioning).

In the second study, which involved the original collection of therapist data coupled with archived patient data, I tested therapists' self-reported personal relational humility as a predictor of their global effectiveness differences. Drawing on theory and indirect support for its positive benefits in other contexts (e.g., Huynh & Dicke-Bohmann, 2020; Qian et al., 2018), I hypothesized that therapists with higher versus lower personal relational humility would also have better caseload-level patient outcome.

CHAPTER II

STUDY 1

To reiterate, the aim of Study 1 was to test therapist professional humility as a predictor of between-therapist differences in their average patient's global treatment outcome. I hypothesized that clinicians with higher versus lower professional humility would have better caseload-level patient outcomes.

A. Method

1. Dataset Overview

As noted, this study drew on the same archived dataset that Constantino, Coyne et al. (2021) accessed for their previously reviewed study that examined the associations between

therapists' self-perceptions of their effectiveness in treating patients with different presenting problems and their actual measurement-based, problem-specific effectiveness. These data were collected as part of the baseline phase of an RCT that tested the efficacy of prospectively matching adult outpatients to providers who had empirically derived historical strengths (based on the aforementioned measurement-based effectiveness classifications of effective, neutral, and ineffective) in treating their patients' primary problem(s) (Constantino, Boswell et al., 2021). Importantly, the baseline phase for this trial was fully naturalistic; that is, nothing about psychotherapy or the case-assignment process was manipulated. As described more fully below, during this baseline phase, patient outcomes data were routinely collected as part of the clinic's standard operating procedures. The main function of this phase was to develop therapists' "reports cards" of problem-specific effectiveness strengths and weaknesses to prime the match system that was being tested in the RCT. However, this phase also provided de facto "big data" on naturalistic therapist effects that, when coupled with the trial researchers' assessment of therapists' demographic and professional characteristics, as well as their subjective perceptions of their own effectiveness (as per the TPS), served as an ideal dataset for the present study.

2. Participants

a. Therapists

The dataset included 50 licensed therapists (14 psychologists and 36 masters-level clinical counselors/social workers) who were working within a large network of community mental health clinics in the Cleveland, Ohio area (Psychological and Behavioral Consultants [PsychBC]). All of these consenting clinicians were eligible for the Constantino, Boswell et al. (2021) match trial because they had treated the requisite number of patients to reliably

classify their problem-specific effectiveness (i.e., ≥ 15 historical patients with pre and posttreatment TOP data; $M = 27.26$, $SD = 4.08$). These clinicians averaged 49.46 years of age ($SD = 15.33$), and the majority identified primarily as White (88%) and as female (74%). In terms of post-licensure experience, they averaged 16.88 years ($SD = 12.39$).

b. Patients

Across the 50 therapists, the archived patient sample included 1,363 adults who were treated during the trial's baseline phase. These patients averaged 36.71 years of age ($SD = 14.33$), and the majority identified primarily as White (74%) and as female (66%). In terms of other racial/ethnic identities, 7% identified as African American or Black, $< 1\%$ identified as Asian, and 18% did not provide data on their race or ethnicity. As is typical for community outpatient mental health care, patients presented with diverse problems.

3. Treatment

As noted, the archived patient-reported TOP data were collected in the context of naturalistic therapy of varied lengths. For the purposes of the match trial's baseline and the present study, the posttreatment assessment was the final completed follow-up TOP up to a maximum of 26 weeks (i.e., ~ 6 months). Within this outermost limit, the average length of treatment was 10.50 weeks ($SD = 5.56$, range = 4–26). Although the exact nature of treatment was unknown, the therapists did report (at the trial's baseline) the degree to which their practice was influenced by major psychotherapy orientations. From highest to lowest—on a rating scale of 0 (*not at all*) to 6 (*very much*)—their mean ratings were cognitive behavioral ($M = 5.08$; $SD = 1.12$), integrative ($M = 4.36$; $SD = 1.55$), interpersonal ($M = 4.07$; $SD = 1.37$), humanistic/experiential ($M = 3.48$; $SD = 1.61$), systems ($M = 3.16$; $SD = 1.46$), and psychodynamic/psychoanalytic ($M = 2.57$; $SD = 1.76$). Beyond therapists' theoretical

orientation, no other information regarding the treatments themselves was collected during the baseline phase of the Constantino, Boswell et al. (2021) trial.

4. Measures

a. Therapist Characteristics

To characterize the therapist sample, the participating clinicians had completed the *Provider Characteristics Form* (PCF; Constantino, Boswell et al., 2021; see Appendix A), which assesses a variety of demographic and professional characteristics. Most relevant to the present study, this form asks therapists to indicate their age, gender identification, racial/ethnic identification, highest earned degree, years of experience, and influence from various major theoretical orientations (scale noted previously).

b. Patient-Reported Outcomes

All outcome indices in this study were derived from, or in relation to, the aforementioned TOP (Kraus et al., 2005; see Appendix B)—a routine measure of symptomatic/functional impairment that patients completed as part of their standard care. Each of the TOP's 58 items is rated from 0 (*none*) to 5 (*all*) to capture how much time over the past 2 weeks the person has experienced a specific concern. As previously noted, the items load onto 12 symptomatic or functional domains: depression, quality of life, mania, panic or somatic anxiety, psychosis, substance misuse, social conflict, sexual functioning, sleep, suicidality, violence, and work functioning.

For analysis and ease of clinical interpretation, these subscale data are transformed into *z* scores (i.e., *SD* units relative to the general, non-treatment-seeking population mean), with higher scores indicating greater impairment (e.g., a score of 3 on the depression domain would represent a depression level that is 3 *SDs* above the general population norm). The

TOP has strong and well-established psychometric properties; the subscales have excellent factor structure, good internal consistency (alphas ranging from .69–.93), and good test–retest reliability (intraclass correlations ranging from .87–.94), and the total score (i.e., average of the 12 *z* scores) has excellent reliability (alpha = .94), convergent validity with other measures assessing global symptom severity (*r*s ranging from .89–.91), and sensitivity to change (Kraus et al., 2005).¹ Note that for the present study, I used the therapists’ caseload average total TOP score at posttreatment as the dependent variable, and their caseload average total TOP score at pretreatment as a covariate.

c. Professional Humility

As previously stated, I assessed professional humility (the independent variable) using the same multipart method that Constantino, Coyne et al. (2021) used to compare therapists’ self-perceived and measurement-derived effectiveness. First, to establish therapists’ measurement-based effectiveness for the patients they treated during the trial’s baseline phase, the researchers drew on the previously described multistep method for classifying therapists’ problem-specific strengths and weaknesses (Constantino, Boswell et al., 2021; Kraus et al., 2011, 2016). To reiterate, therapists were classified on each of the 12 TOP domains as effective (i.e., their average sample patient reliably exceeded their case-mix-adjusted expected outcome CI for the domain, as determined with machine learning in a large, separate reference sample), neutral (i.e., their average patient was within the expected outcome CI for the domain), or ineffective (i.e., their average patient fell short of their case-mix-adjusted expected outcome CI for the domain).

¹ Given the archival nature of this study and the data protections for the company that processes the TOP, I did not have access to item-level TOP-CS data; thus, I could not provide *study-specific* reliability information. Again, though, the TOP is a well-established, widely used, and psychometrically sound routine outcomes measure in the mental health care field.

Next, to assess their self-perceived effectiveness, participating therapists had completed the aforementioned TPS (Constantino, Boswell et al., 2021; see Appendix C). This measure was designed to correspond with the patient-reported TOP; that is, therapists rated their perceived effectiveness on the same 12 outcome domains that are used to assess therapists' TOP-based effectiveness. The scale was as follows: 1 (*always ineffective*), 2 (*usually ineffective*), 3 (*sometimes ineffective*), 4 (*inconsistently ineffective*), 5 (*sometimes effective*), 6 (*usually effective*), and 7 (*always effective*). To determine the extent to which therapists' TPS ratings varied across outcome domains (which would reflect their ability to see both relative performance strengths and weaknesses), I calculated an intraclass correlation with outcome domain self-perceptions nested within therapists. Results indicated that 91.6% of the variance was due to within-therapist variability, suggesting that the therapists did perceive themselves as having performance strengths and weaknesses that the TPS can adequately capture.

Finally, to derive the index of professional humility for the present study, therapists' self-perceived effectiveness ratings for each TOP domain were recoded to match the measurement-based effectiveness classifications of effective, neutral, and ineffective; that is, responses on the TPS of 6 and 7 were collapsed to correspond with the TOP-based performance classification of effective. TPS responses of 3, 4, and 5 were collapsed to correspond with the neutral classification. Finally, TPS responses of 1 and 2 were collapsed to correspond with the ineffective classification. Subsequently, I derived three continuous accuracy variables to test as predictors of between-therapist differences in their global effectiveness as per the TOP total score. The first variable, *accuracy*, reflected the number of TOP domains (possible range of 0–12) for which therapists' perceived effectiveness

classification matched their measurement-based effectiveness classification. The second variable, *underestimation*, reflected the number of TOP domains (0–12) for which therapists' perceived effectiveness classification was lower than their measurement-based effectiveness classification (i.e., therapists saw themselves as ineffective or neutral in treating a given problem when they were actually neutral or effective, respectively). Finally, the third variable, *overestimation*, reflected the number of TOP domains (0–12) for which therapists' perceived effectiveness classification was higher than their measurement-based effectiveness classification (i.e., therapists saw themselves as effective or neutral in treating a given problem when they were actually neutral or ineffective, respectively).

5. Procedure

Therapists within the community network were recruited for the match trial through emails or telephone calls (see Constantino, Boswell et al., 2021, for additional details). At the trial's baseline, the consenting therapists completed a survey of measures that included the PCF and TPS. Also relevant to the present study, routinely collected, de-identified pre and posttreatment patient TOP data for at least 15 of each participating therapist's historical cases were used to inform therapists' measurement-based, multidimensional effectiveness classifications. The University of Massachusetts Amherst's institutional review board (protocol no. 2016-3401) approved the trial itself, as well as the additional analysis of de-identified data (including, for this study, exclusively at the therapist level).

6. Data Analyses

I first calculated descriptive statistics for the study variables, and transformed any that were not acceptably normally distributed (i.e., skewness value of $> +2$ or < -2). Second, to test my primary research question, I used hierarchical linear modeling (HLM; Raudenbush &

Bryk, 2002), which is an appropriate choice in that it accounts for the nested data structure (patients within therapists) and allows for the use of maximum likelihood estimation to address missing data. Therefore, all participants who provided at least one rating on a study measure were included in my primary analyses.

More specifically, I initially fit an unconditional model (i.e., without predictors) to determine the percentage of variance in patient posttreatment TOP scores that is attributable to the therapist. Next, I fit three (one for each of the accuracy variables) conditional two-level models with between-patient (within-therapist) variability at Level 1 and between-therapist differences at Level 2. As noted, patients' posttreatment TOP total score served as the outcome variable, which was predicted by each of the three therapist-level accuracy variables (at Level 2);² that is, I tested whether between-therapist differences in accuracy, underestimation, and overestimation distinctly predicted between-therapist differences in their average patient's posttreatment global outcome.

Additionally, I controlled for within-therapist (Level 1) and between-therapist (Level 2) differences in patients' global baseline symptomatic/functional impairment (TOP total score) and treatment length. To generate the within-therapist covariates, I group-mean centered both variables. To generate the between-therapist covariates, I used each therapist's average of these variables across all patients in their caseload. I included a random intercept to allow patients' posttreatment outcome to vary across therapists, and I based the inclusion of random slopes for the within-therapist associations between the covariates and posttreatment outcome on a chi-square model comparison test that determined whether a

² Given that therapists' scores on each of the three self-perceived performance accuracy classifications were inherently correlated (due to the fact they represented a count of the self-perception accuracy across the 12 domains), I examined each classification in a separate model.

model with versus without the relevant random effect was a significantly better fit to the data. See Appendix D, for the full multilevel equation for the best-fitting model. Of note, I evaluated effect size by calculating a pseudo r^2 value representing the percentage of unexplained therapist-level variance that was accounted for by the addition of each focal predictor (Raudenbush & Bryk, 2002). This method allowed me to quantify the percentage of the overall therapist effect on posttreatment outcome that was explained by each therapist-level accuracy variable.

Finally, given that therapists who were less effective than others in a measurement-based sense may have simply had fewer opportunities to underestimate their effectiveness, whereas those who were more effective than others in a measurement-based sense may have had fewer opportunities to overestimate their effectiveness, it seemed possible that these associations would be spurious. To address this, I conducted two distinct sensitivity analyses. First, I replicated the underestimation model while controlling for the number of domains on which a given therapist had a measurement-based classification of ineffective. Second, I replicated the overestimation model while controlling for the number of domains on which a given therapist had a measurement-based classification of effective. Although including these covariates may have resulted in models that were overly conservative, I considered it important to explore whether the therapist self-perceived effectiveness variables related to outcome when controlling for each therapist's relative chance to under or overestimate their own measurement-based effectiveness.

B. Results

Descriptively, for the covariate of pretreatment TOP, the mean was 0.93 ($SD = 0.92$). For the covariate of treatment length, the mean and SD were previously reported in the

treatment section. For the dependent variable of posttreatment TOP, the mean was 0.59 ($SD = 0.83$). Finally, for the independent humility variables, the descriptive statistics were as follows: accuracy ($M = 4.66$, $SD = 1.75$), underestimation ($M = 1.00$, $SD = 1.14$), and overestimation ($M = 6.34$, $SD = 2.02$). Additionally, all study variables were acceptably normally distributed. Notably, the therapists' overall patterns of measurement-based, problem-specific effectiveness was consistent with previous research (Kraus et al., 2011, 2016). Namely, therapists had an average of approximately 1–2 relative strengths (M number of TOP domains effective = 1.52; $SD = 1.95$; range = 0–9) and approximately 0–1 relative weaknesses (M number of domains ineffective = 0.52; $SD = 0.95$; range = 0–4). Moreover, therapists were generally not universally effective or ineffective; 90% had three or fewer strengths and 96% had three or fewer weaknesses. Therefore, in this sample, the majority of therapists had a relatively equal chance to over, under, or accurately estimate their own measurement-based, problem-specific effectiveness.

The results of an unconditional HLM (i.e., without predictors) revealed that although only 1.45% of the variance in patients' posttreatment outcome (i.e., TOP total score) was accounted for by the therapist, the effect was statistically significant, $\chi^2(49) = 68.12$, $p = .036$. Furthermore, when accounting for between-patient differences in global baseline impairment severity, therapists accounted for 4.69% of the unexplained variance in patients' posttreatment outcome, which again was statistically significant, $\chi^2(49) = 114.07$, $p < .001$. This variability suggested there were meaningful between-therapist differences in their global effectiveness that could be explained by the addition of predictors.

Next, I added the other relevant covariates—within-therapist (Level 1) and between-therapist (Level 2) differences in patients' global baseline impairment severity and treatment

length—and conducted model comparison tests to determine the best fit. Results revealed that a model in which between-patient severity (but not treatment length) was allowed to vary across therapists (i.e., a random slope) and between-therapist differences in caseload-level baseline impairment were included as a Level-2 covariate was the best fit to the data (all model comparison $ps < .05$). In contrast, because between-therapist differences in caseload-level treatment length did not significantly predict any of the Level-2 outcomes (i.e., posttreatment outcome [intercept], within-patient severity-outcome association [slope], or within-patient treatment length-outcome association [slope]), and including it did not improve model fit, $\chi^2(3) = 0.17, p > .500$, I did not include it as a covariate for my primary analyses.

My primary analyses showed that therapist accuracy was unrelated to between-therapist differences in their caseload-level posttreatment outcome, when controlling for all other covariates in the model ($\gamma_{02} = -0.001, SE = 0.01, p = .913$; 95% CI $[-0.02, 0.02]$; pseudo $r^2 = 0.012$). However, as hypothesized, greater therapist underestimation was associated with better caseload-level posttreatment outcome, when controlling for the covariates ($\gamma_{02} = -0.05, SE = 0.02, p = .002$; 95% CI $[-0.08, -0.02]$; pseudo $r^2 = 0.38$). In terms of effect size, underestimation resulted in a 48% reduction in the unexplained variance in caseload-level posttreatment outcome. Putting this in terms of the overall therapist effect, which was 2% after accounting for the effects of all covariates, underestimation explained nearly half (0.76%) of the unexplained variance in the therapist effect. Finally, greater therapist overestimation was associated with worse caseload-level posttreatment outcome, when controlling for the covariates ($\gamma_{02} = 0.02, SE = 0.01, p = .048$; 95% CI $[0.002, 0.04]$; pseudo $r^2 = 0.37$). Putting this in terms of the overall therapist effect, which was 2% after

accounting for the effects of all covariates, overestimation explained nearly half (0.74%) of the unexplained variance in the therapist effect. For the full results of the HLMs, see Table 1.

Although descriptive data indicated that the majority of therapists had a relatively equal chance of over, under, or accurately estimating their own measurement-based, problem-specific strengths and weaknesses, I still conducted my previously described sensitivity analyses. As noted, I first replicated the underestimation model controlling for the total number of TOP domains for which therapists had a measurement-based classification of ineffective. Results indicated that greater underestimation was still associated with better caseload-level posttreatment outcomes ($\gamma_{02} = -0.04$, $SE = 0.02$, $p = .011$; 95% CI [-0.08, -0.01]). Second, when controlling for the overall number of domains for which therapists had a measurement-based classification of effective, overestimation was no longer associated with caseload-level posttreatment improvement ($\gamma_{02} = 0.01$, $SE = 0.01$, $p = .505$; 95% CI [-0.01, 0.03]).

C. Discussion

In the context of experienced therapists delivering naturalistic psychotherapy to adult outpatients, this study tested therapist professional humility—measured in a novel way and beyond therapist self-report of PSD—as a predictor of between-therapist differences in their average patient’s global treatment outcome. As hypothesized, the average patient of therapists who were more likely to underestimate their actual measurement-based, problem-specific effectiveness (i.e., the ones who demonstrated more professional humility) reported better global outcome than the average patient of therapists who were more likely to over or accurately estimate their actual effectiveness. Conversely, and still consistent with my humility hypothesis, the average patient of therapists who were more likely to overestimate

their actual measurement-based, problem-specific effectiveness reported worse global outcome than the average patient of therapists who were more likely to under or accurately estimate their actual effectiveness (though a sensitivity analysis suggested that caution is warranted when interpreting this latter effect).

The robust underestimation result (which held even when controlling for the number of domains for which therapists had a measurement-based classification of ineffective) generally adds to the currently limited literature on therapist-level factors that predict the between-therapist effect (Wampold & Owen, 2021). More specifically, it may also have preliminarily promise for clarifying or extending the currently mixed research on therapist PSD—one of the few variables that has emerged as a determinant of between-therapist effectiveness differences (albeit inconsistently and sometimes in different directions). As previously reviewed, whereas the Nissen-Lie et al. (2013, 2017) studies found that more PSD among experienced therapists associated with greater improvement in patient interpersonal outcomes, another study found the opposite effect among trainee therapists (i.e., greater PSD associated with worse interpersonal outcomes; Odyniec et al., 2017). Further, another study found that greater PSD among experienced therapists was only marginally significantly associated with better patient symptomatic outcomes (Clements-Hickman & Reese, 2022). As also noted previously, it could be that PSD could sometimes have a positive effect on therapist-level outcomes to the extent that it partially reflects the broader adaptive virtue of humility. At the same time, PSD measurement has heretofore been restricted to a therapist's self-report of a global self-criticalness of one's general clinical skill. This restriction, which only allows one to *imply* its relevance to professional humility more broadly, could explain

why PSD sometimes has a negative effective on, or no association with, therapist-level outcomes.

Arguably, the present method of assessing professional humility is more direct and encompassing in that therapists rate multiple domains of their performance in a way that allows for the simultaneous existence of doubt, modesty, *and* confidence (as opposed to one's global judgement of the body of their work), which when integrated could render this broader humility variable a more reliable and predictively valid determinant of one's measurement-based outcomes (including symptomatic/functional outcomes that are typically assessed with routine outcomes measures in clinical practices). Of course, the present study can only support this contention preliminary. Replication would be required to advance this notion beyond promising speculation (and to see if it holds for both experienced and trainee therapists). At a minimum, though, another method has been established to assess how experienced therapists assess themselves professionally, and the direction of such assessments appear to have clinical meaning at the therapist level of analysis.

And to the extent that humility has been captured by one's professional self-perceptions, it squares conceptually with how this virtue has long been discussed as an important character strength that can be leveraged for helping others (e.g., Kierkegaard, 1998). The present positive effect of therapist underestimation would also align with the broader research base on the benefits of humility, including in the helping profession realm. For example, as noted previously, greater physician humility has been positively associated with patients' beneficial health outcomes (Huynh & Dicke-Bohmann, 2020; Ruberton et al., 2016), reports of effective physician-patient communication (Ruberton et al., 2016), and both satisfaction with and trust in their physician (Huynh & Dicke-Bohmann, 2020). Also, in a

recent dyadic study specific to psychotherapy, therapists who rated therapeutic change less positively than their patients rated their own change were generally more versus less effective (Ziem & Hoyer, 2020). Taken together, a personally humbler attitude of one individual can have a variety of beneficial effects on others, including in the psychotherapy context. As just one speculation on its clinical mechanism, perhaps a degree of doubt in a wide-ranging assessment of one's clinical abilities enables therapists to be more alert to challenges or signals that a given course of therapy (and the patient-therapist working relationship that underlies it) is off track, thereby allowing for timely and flexibly responsive interventions that have a greater likelihood of success (Constantino et al., 2020; Macdonald & Mellor-Clark, 2015). Such a mediational pathway could be an important focus of next-step research on therapist humility.

That said, there could also be some immediate practice implications of the current results, especially if replicated. Namely, the finding that therapist underestimation of their measurement-based effectiveness differentiated better- from worse- performing clinicians could be disseminated to established clinicians with the hope they would shift toward a humbler, more cautious attitude toward their practice. Further, as research uncovers the precise clinical mechanisms of this effect, such findings could also be disseminated to clinicians in order to provide them with a credible rationale as to precisely how adopting a humbler perspective on their work could, on balance, be a boon to their performance. I would speculate that having such a credible rationale might facilitate the uptake of this empirical finding, thereby helping clinicians engage in the specific, in-session practices through which this virtue may translate into better patient outcome.

Of course, the typical methods for disseminating psychotherapy research findings (e.g., journal articles, workshops) do not always (or even generally) promote reliable uptake on the part of therapists. Thus, another implication of the present therapist professional humility result is to incorporate it as an explicit learning principle and target it at all levels of training (i.e., from graduate work through continuing education). Of course, inherent in this idea is that therapist humility is mutable and can therefore be cultivated. Fortunately, some training-focused research has supported this notion. For example, in one study of 59 undergraduates that explicitly attempted to change humility, the researchers found significant increases in this trait after participants completed an extensive (i.e., 80-page, 7.5-hour) workbook intervention (Lavelock et al., 2014). Further, although not *directly* focused on fostering professional humility, several studies have demonstrated that therapists' self-assessments of their clinical skills can shift away from overconfidence and toward modesty when compared with expert ratings of intervention competence (e.g., Beale et al., 2020; Lepkowski et al., 2009; Little et al., 2005). Therefore, at least preliminarily, it seems as though therapists' assessments of their own performance strengths and weaknesses can be influenced by training.

If this is indeed the case, these trainings may be especially effective if they use deliberate practice methods—one of the other factors that has emerged to date as a predictor of generally more versus less effective clinicians (e.g., Chow et al., 2015). When combined with using patient-reported outcomes data to inform therapists of their problem-specific strengths and weaknesses, such trainings could take on both universal and personalized forms. Namely, it may be that all therapists could benefit from trainings that cultivate humility, whereas any given therapist can draw on their performance report cards to

personally train to reinforce their strengths and/or redress their weaknesses (see Boswell et al., 2022; Coyne, 2024). That being said, these preliminary training implications will need to be explicitly tested in future work.

Of course, any implications of the present work should be considered with the study's limitations in mind. First, because the TPS was a new measure developed specially for this line of research, it could have reliability issues. For example, it is currently unknown whether therapists would demonstrate test-retest reliability in how they rate their own domain-specific effectiveness over time. Additionally, the frequency with which a therapist encounters a certain problem dimension could affect how they respond to the TPS items. However, the TPS had high face and ecological validity for this study, as it mimicked how therapists currently tend to assess and advertise their problem-specific strengths without the influence of measurement.

Second, despite the potential benefits of deriving a professional humility index from the interface of self-perception and measurement, it is nonetheless true that the present method is not an explicit, direct assessment of the construct. Thus, future research will need to determine how this method compares to others, and whether the triangulation of methods (including self- and other-report humility instruments) has an additive quality. Third, it remains possible that more globally effective therapists simply had more opportunities to underestimate their own effectiveness and fewer opportunities to overestimate it, thereby rendering the associations between these variables and patient outcomes somewhat of a methodological artifact. However, this concern was partially mitigated by the fact that the norm in this sample was for therapists to have 1–2 strengths and 0–1 weaknesses, thus resulting in a relatively equal chance to under or overestimate one's domain-specific

effectiveness. Moreover, our sensitivity analyses indicated that the underestimation results were not solely the result of therapists' overall problem-domain-based report cards.

Fourth, we have no information about the factors on which therapists based their self-perceptions of effectiveness. Nevertheless, it is worth reiterating that the therapist sample for Study 1 was relatively seasoned, with an average of approximately 16 years of post-licensure experience to draw from when providing their TPS ratings. Fifth, the study had restricted generalizability beyond a specific and relatively small sample of therapists in a mental health care system in the Midwestern United States. Generalizability was further limited by a relative lack of diversity in both therapist and patient samples, as well as the fact that clinicians self-selected to participate in the research. Finally, this study included no therapists in training, which precluded me from examining experience as a moderator of the personal relational humility-outcome link. It may be important for future research to do this, especially in light of research that has demonstrated a differential effect of PSD on therapist-level outcomes depending on the provider sample's experience level.

CHAPTER III

STUDY 2

To reiterate, the aim of Study 2 was to test therapists' personal relational humility as a predictor of between-therapist differences in their average patient's global treatment outcome. I hypothesized that therapists with higher versus lower relational humility would also have better caseload-level patient outcomes.

A. Method

1. Dataset Overview

Data for the second study derived from three different outpatient mental health care networks or individual clinics that all administered the TOP as their routine outcome measure (which allowed me to merge data to examine my second question with a larger dataset than would have been possible in any single setting). As a general design overview across the sites, I accessed archival patient TOP data to analyze at the therapist level. I also prospectively recruited and collected data on eligible therapists; that is, those who had treated two or more historical patients with at least pre and posttreatment TOP data.

The first site was the same community mental health network from Study 1 (PsychBC in Cleveland, Ohio). For the present study, I recruited from the same population of therapists who participated in the aforementioned parent match trial ($N = 48$; Constantino, Boswell et al., 2021). These therapists were eligible by virtue of having TOP data available for the multiple patients they treated in the trial.³ (Importantly, the patient sample for Study 2 consisted only of these trial patients, which rendered it completely distinct from the patient sample analyzed in Study 1 that centered on historical cases that therapists had treated *prior to* the trial.) The second site was a university-affiliated, outpatient mental health center (the Albert and Jessie Danielsen Institute (DI) in Boston, Massachusetts) and the third site was an outpatient psychotherapy clinic embedded in the Albany Medical Center (AMC) in Albany, New York. At each of these latter two sites, I recruited eligible therapists whose historical patients provided TOP data as part of their routine clinical care.

2. Participants

a. Therapists

³ Note that although 50 therapists consented and provided baseline patient data to allow for the generation of their objective effectiveness classifications (which allowed them to be included in Study 1), only 48 of these therapists went on to treat trial patients (which made them eligible for inclusion in Study 2). The other two were excluded from the trial due to logistical constraints and clinician turnover.

This study included 43 licensed or trainee clinicians across the three aforementioned sites (8 from PsychBC, 14 from DI, and 21 from AMC). These clinicians treated a mean of 6.72 patients ($SD = 8.84$). Demographically, they averaged 40.64 years of age ($SD = 13.51$), and the majority identified primarily as White (56%) and as female (60%). In terms of post-licensure experience, they averaged 10.48 years ($SD = 8.87$). In terms of professional degrees, 19 therapists (45%) had a master's degree, 14 (33%) had a doctorate, 6 (14%) had a medical degree (e.g., MD or DO), and 3 (7%) had bachelor's degree (i.e., they were currently in graduate-level training).

b. Patients

Across the 43 therapists, the archived patient sample included 289 adults (24 from PsychBC, 66 from DI, and 199 from AMC). These patients averaged 41.90 years of age ($SD = 14.36$), and the majority identified primarily as White (68%) and as female (69%). In terms of other racial/ethnic identities, 18% identified as African American or Black, 8% identified as Hispanic or Latino, 2% identified as American Indian or Alaska Native, 1% identified as Asian, and 3% identified with as multiracial or other. As is typical for community outpatient mental health care, patients presented with diverse problems.

3. Treatment

As noted, the archived patient-reported TOP data were collected across the three sites in the context of naturalistic therapy of varied lengths. For the present study to be consistent with Study 1's parameters, the posttreatment assessment was the final completed follow-up TOP up to a maximum of 26 weeks (i.e., ~6 months). Within this outermost limit, the average length of treatment was 20.39 weeks ($SD = 9.76$, range = 1 to 26). Although the exact nature of treatment was unknown, the therapists did report the degree to which their practice was

influenced by major psychotherapy orientations. From highest to lowest—on a rating scale of 0 (*not at all*) to 6 (*very much*)—their mean ratings were psychodynamic/psychoanalytic ($M = 4.53$; $SD = 1.38$), integrative ($M = 4.36$; $SD = 1.38$), cognitive behavioral ($M = 3.69$; $SD = 1.63$), interpersonal ($M = 3.68$; $SD = 1.58$), humanistic ($M = 3.05$; $SD = 1.58$), and systems ($M = 2.59$; $SD = 1.46$). Beyond therapists' theoretical orientation, no other information regarding the treatments themselves was collected.

Recall that for the 24 PsychBC patients in Study 2, their naturalistic treatment was administered after they were randomly assigned to the match (experimental) or case-assignment-as-usual (control condition). Although the match manipulation was not the primary focus of the present study, the experimental group did have the hypothesized superior effect on patient outcome over usual assignment in the Constantino, Boswell et al. (2021) trial. Thus, I controlled for assignment condition in my primary analyses (as further discussed in the subsequent data analysis section).

4. Measures

a. Therapist Characteristics

As with Study 1, therapists completed the PCF, which allowed me to characterize the sample.

b. Patient-Reported Outcomes

As with Study 1, therapists' caseload average total TOP score at posttreatment was the dependent variable, and their caseload average total TOP score at pretreatment was a covariate. As noted in the full description of the TOP for Study 1, the total score reflects a global index of symptomatic/functional impairment. However, it is important to note that the TOP total score can be computed using two different, mathematically equivalent methods: an

average, standardized z score (used in Study 1) and an unstandardized, sum total score (Constantino, Boswell et al., 2021; Kraus et al., 2005). Because the archival TOP data from one of the Study 2 sites included only the sum total score, I used this index in the present study to operationalize patient outcome across all three sites. The sum total of the TOP items has a theoretical range of 58 to 348, with higher scores indicating *better* functioning.

c. Therapist Personal Relational Humility

To assess personal relational humility (the independent variable), therapists completed the *Relational Humility Scale* (RHS; Davis et al., 2011; see Appendix E), which can be reliably adapted to a self-report version (e.g., “He/she knows his/her weaknesses” is modified to say, “I know my weaknesses;” Bell & Fincham, 2019). The RHS includes 16 items rated from 1 (*completely disagree*) to 5 (*completely agree*), with a theoretical range of 16 to 80. The scale includes three subscales: Global Humility (e.g., “Most people would consider me a humble person.”), Superiority (“I think of myself too highly”), and Self-Awareness (“I know myself well.”). Alphas for the total score, which I used in the present study, range from .90 to .95 when utilized in its original form (Davis et al., 2011). Importantly, a recent psychometric analysis of the adapted self-report version of the RHS found that it had the same factor structure as the original scale and also had similar reliability (alpha = .82; Bell & Fincham, 2019). The sample-specific reliability for the adapted RHS total score was also good (alpha = .86).

5. Procedure

The eligible therapists from the three different outpatient psychotherapy sites were recruited via email from study personnel and/or a site administrator. The consenting therapists completed a survey of measures that included the PCF and RHS. Also relevant to

the present study, routinely collected, de-identified pre and posttreatment patient TOP data for at least two of each participating therapist's historical cases were used to assess patients' treatment outcome at the therapist level. Therapists were provided with a \$40.00 Amazon.com gift card as compensation for their participation. The institutional review board at the University of Massachusetts Amherst institutional review board (protocol no. 1484) approved this study for data collection at PsychBC and the DI. For AMC data collection, the study was approved by the institutional review board at the Albany Medical Center (for which an institutional authorization agreement with the University of Massachusetts Amherst was established).

6. Data Analyses

I first calculated descriptive statistics for the study variables, and transformed any that were not acceptably normally distributed (i.e., skewness value of $> + 2$ or < -2). Second, to test my primary research question, and consistent with Study 1, I used HLM (Raudenbush & Bryk, 2002). More specifically, I initially fit an unconditional model (i.e., without predictors) to determine the percentage of variance in patient posttreatment TOP scores that is attributable to the therapist. Next, I fit a conditional two-level model with between-patient (within-therapist) variability at Level 1 and between-therapist differences at Level 2. As noted, patients' posttreatment TOP total score served as the outcome variable, which was predicted by therapist personal relational humility (at Level 2); that is, I tested whether between-therapist differences in personal relational humility predicted between-therapist differences in their average patient's posttreatment global outcome.

Additionally, because the data were collected from three different clinics, I controlled for any possible clinic effects (Level 2). I also controlled for within-therapist (Level 1) and

between-therapist (Level 2) differences in patients' global baseline symptomatic/functional impairment (TOP total score) and treatment length. Finally, given that the PsychBC patients' outcomes data were collected as part of a trial that manipulated case assignments, I controlled for case assignment condition (matched vs. assignment as usual) in my analyses (Level 1). To generate the between-therapist covariates, I used each therapist's average of these variables across all patients in their caseload. I included a random intercept to allow patients' posttreatment outcome to vary across therapists, and I based the inclusion of random slopes for the within-therapist associations between the covariates and posttreatment outcome on a chi-square model comparison test that determined whether a model with versus without the relevant random effect was a significantly better fit to the data. See Appendix F, for the full multilevel equation for the best-fitting model. Finally, I evaluated effect size by calculating a pseudo r^2 value representing the percentage of unexplained therapist-level variance that was accounted for by the addition of each focal predictor (Raudenbush & Bryk, 2002).

B. Results

Descriptively, for the covariate of pretreatment TOP, the mean was 264.67 ($SD = 32.13$). For the covariate of treatment length, the mean and SD was previously reported in the treatment section. For the dependent variable of posttreatment TOP, the mean was 272.66 ($SD = 29.15$).⁴ Finally, for the independent variable of therapist personal humility, the mean was 62.54 ($SD = 6.94$). Additionally, all study variables were acceptably normally distributed.

⁴ Recall that when using the summed scoring method for the TOP total score, higher scores indicate *lower* symptomatic impairment/better functioning.

Results of an unconditional HLM (i.e., without predictors) indicated that although 6% of the variance in patient's posttreatment outcome (i.e., TOP total score) was accounted for by the therapist, this effect was not statistically significant, $\chi^2(39) = 49.10, p = .13$. However, when accounting for between-patient differences in global baseline impairment severity, therapists accounted for 16% of the unexplained variance in patients' posttreatment outcome, which was statistically significant, $\chi^2(28) = 65.24, p < .001$. This variability suggested there were meaningful between-therapist differences in their global effectiveness that could be explained by the addition of predictors.

Next, I added the other relevant covariates (i.e., within-therapist [Level 1] and between-therapist [Level 2] differences in patients' global baseline impairment severity and treatment length, within-therapist match condition [Level 1], and between-therapist differences in site [Level 2]) and conducted model comparison tests to determine the best fit. Results revealed that a model in which between-patient severity (but not treatment length) was allowed to vary across therapists (i.e., a random slope), within-therapist match condition was controlled for as a Level-1 covariate, and between-therapist differences in caseload-level baseline impairment and site were included as Level-2 covariates was the best fit to the data (all model comparison $ps < .05$). In contrast, because between-therapist differences in caseload-level treatment length did not significantly predict any of the Level-2 outcomes (i.e., posttreatment outcome [intercept] and within-patient severity-outcome association [slope], and including it did not improve model fit, $\chi^2(2) = 3.48, p = .174$, I did not include it as a covariate for my primary analyses.

My primary analyses showed that, counter to my hypothesis, therapist personal humility did not significantly predict between-therapist differences in their caseload-level

patient outcome, when controlling for all other covariates in the model ($\gamma_{05} = -0.15$, $SE = 0.25$, $p = .552$; 95% CI [-0.64, 0.34];]; pseudo $r^2 = .19$). For the full results of this model, see Table 2.

C. Discussion

Once again in the context of experienced therapists delivering naturalistic psychotherapy to adult outpatients, this study tested therapist personal humility—measured as a self-report—as a predictor of between-therapist differences in the average patient’s outcome. Counter to the professional humility results in Study 1, personal relational humility did not emerge as determinant of the between-therapist effect. Although this null result was counter to my hypothesis, it does align with the only other study to explore the personal humility-global patient outcome link at the therapist level (Clements-Hickman & Reese, 2022). I offer several possible explanations for lack of association.

On the one hand, it may be humility *specific to a therapist’s professional abilities* (as revealed in the Study 1 results and consistent with prior studies on PSD) has a unique predictive capacity. That is, perhaps therapist *relational* humility (as examined in the present Study 2) and *expressed* humility (as examined in the Clements-Hickman & Reese [2022] study) are two *personal* humility subtypes that are truly unrelated patient improvement in psychotherapy. Although somewhat inconsistent with the broader literature on humility as a virtue, including in other healthcare contexts (e.g., Huynh & Dicke-Bohmann, 2020; Ruberton et al., 2016), it could be that in the psychotherapy context, it is most important for therapists to embody humility in relation to their ability to help their patient, as opposed to experiencing humility in relation to their life and relationships outside of the therapy (i.e., professional) context. In fact, partially supporting this notion, one aforementioned study

found that greater therapist PSD *coupled with* a positive self-concept (in general) was particularly beneficial for fostering adaptive treatment outcomes (Nissen-Lie et al., 2017).

On the other hand, it may be premature to draw definitive conclusions about the true nature of the association between therapist personal humility and their overall effectiveness. First, although both studies (and especially the Clements-Hickman & Reese [2022] one) had relatively large *patient* samples, they also only met minimum requirements for therapist sample sizes (i.e., ~45 therapists), which could have resulted in limited power at the therapist level. Second, both studies relied on therapists' self-reported personal humility, which prior studies on the general accuracy of therapists' self-assessments suggest may be biased (e.g., Brosan et al., 2008; Walfish et al., 2012). Therefore, it may also be the case that therapists are somewhat ill-equipped to gauge their own level of humility. Further supporting this perspective, Study 1, which assessed professional humility using a combination of therapists' self-perceptions *and* measurement-based effectiveness data, did find a significant humility-outcome association. Future work could therefore employ similar methods when quantifying therapists' *personal* humility (e.g., comparing therapists' self-perceptions of relational humility to important others' ratings of their relational humility in life outside of their vocation).

Notably, there are other subtypes of personal humility outside of relational and expressed, and growing research supports their potential relevance in the treatment context. For example, multiple studies have revealed that greater patient-perceptions of therapist *cultural* humility (i.e., an other-oriented stance in which therapists acknowledge their limitations, relinquish any sense of superiority, and embody genuine openness to the cultural identities that are important to a given patient) are associated with better therapist-level

treatment outcomes (e.g., Hook et al., 2013; Owen et al., 2014; Owen et al., 2016). Thus, future research should continue to test associations between different facets of the personal humility virtue (perhaps especially when measured using methods that go beyond therapist self-report) and patient outcomes.

Of course, this study had several limitations. First, as noted, self-report may be problematic for assessing personal humility, as some researchers have questioned its validity—noting that rating oneself highly on a positively valenced virtue is counter to possessing higher levels of humility (e.g., Hill et al., 2017). Second, given the robust body of literature suggesting the inaccuracy of therapists' self-assessments (e.g., Brosan et al., 2008; Constantino, Coyne et al., 2021; Walfish et al., 2012), it may also be the case that this general bias also extends to the humility construct. Thus, it is possible that therapist personal relational humility may have associated with patient outcomes if it had been measured using other methods, such as observer or informant (e.g., supervisor, peer, family member) ratings. Therefore, future research should continue to identify creative methods for examining and measuring these guises of humility (and others).

Third, like Study 1, the present study had restricted generalizability beyond a specific and relatively small sample of therapists in a mental health care system in the Eastern United States. Generalizability was further limited by a relative lack of diversity in both therapist and patient samples, as well as the fact that clinicians self-selected to participate in the research. Finally, although this study included some trainees, it was far too few to examine experience as a moderator of the personal relational humility-outcome link. It may be important for future research to do this, especially in light of research that has demonstrated a

differential effect of PSD on therapist-level outcomes depending on the provider sample's experience level.

CHAPTER III

GENERAL DISCUSSION

This two-study dissertation examined, respectively, if therapist professional and personal relational humility predicted between-therapist differences in their average patient's global treatment outcome. As discussed, professional humility was a significant determinant, whereas personal relational humility was not. The previously stated limitations notwithstanding, the results of Study 1 and 2 contribute to the field's growing knowledge and clarification about between-therapist effects, and the therapist-level factors that can predict them. As the field gains more of such knowledge across humility subtypes, there is clear promise to make such findings clinically actionable (Constantino & Muir, 2024). Ultimately, I see the provider as an important, long-neglected, and nuanced aspect of what it means to be engaging in evidence-based mental health care.

In this general discussion, I highlight several future research directions on the topic of therapist humility and therapist effectiveness. First, the therapist-level findings that do exist on professional, cultural, and personal humility all require replication in similar clinical contexts. Second, therapist-level research on humility variants can be expanded, such as to different treatment types (e.g., theory-specific manualized treatments), patient samples (e.g., inpatients), and other therapist strength and weakness domains (e.g., in treating patients with different social identities). Third, researchers should examine therapist, patient, and contextual moderators of the therapist-level humility-outcome associations. For example,

researchers could test whether this association is stronger or weaker depending on things like therapist experience level, patient personality, and/or in-person versus telehealth settings.

Fourth, researchers can examine therapist characteristics and actions that transmit (mediate) humility into patient improvement. Fifth, researchers can adapt, develop, and prospectively test (with varied empirical methods) ways to effectively train therapists to increase the types of humility that emerge as most consistently related to their effectiveness. For example, it is possible that one could adapt a brief quiet ego intervention (see Liu et al., 2002) to have a specific effect on the outcome of humility. Finally, researchers should examine whether more effective therapists, who achieve this status at least in part because of possessing greater humility, experience more professional flourishing and less burnout. Such work would add an important dimension by focusing on a therapist outcome variable.

CHAPTER V

CONCLUSION

Humility has long been considered a prosocial virtue, including in the ability to help others (e.g., Huynh & Dicke-Bohmann, 2020; Kierkegaard, 1998; Lavelock et al., 2017). In the psychotherapy realm, there is a promising, though still small, literature demonstrating that greater therapist humility subtypes may help differentiate clinicians who generate more versus less effective outcomes and use clinical processes more versus less successfully. This work opens the door for more advancements in understanding and ultimately harnessing, in an evidence-grounded and personalized manner (see Constantino & Muir, 2024), therapist performance differences for the benefit of both patients (e.g., greater engagement, better outcomes) and therapists' (e.g., greater flourishing, less burnout).

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Table 1

Study 1: Therapist Self-Perceived Effectiveness Accuracy Variables as Predictors of Global, Measurement-Based Between-Therapist Effectiveness (N = 1,363)

Fixed effects	Accuracy	Underestimation	Overestimation
	Coefficient (SE)	Coefficient (SE)	Coefficient (SE)
Posttreatment TOP, γ_{00}	0.58 (0.02)***	0.58 (0.02)***	0.58 (0.02)***
Baseline TOP _b , γ_{01}	0.67 (0.10)***	0.62 (0.09)***	0.66 (0.09)***
Therapist self-perceived effectiveness, γ_{02}	-0.001 (0.01)	-0.05 (0.02)**	0.02 (0.01)*
Baseline TOP _w –posttreatment TOP _w slope, γ_{10}	0.58 (0.03)***	0.58 (0.03)***	0.58 (0.03)***
Treatment length _w –posttreatment TOP _w slope, γ_{20}	0.01 (0.003)***	0.01 (0.003)***	0.01 (0.003)***

Note. SE = standard error; TOP = Treatment Outcome Package; b = between-therapist effect; w = within-therapist effect.

* $p < .05$

** $p < .01$

*** $p < .001$

Table 2

Therapist Personal Relational Humility and Treatment Outcome (N = 289)

Fixed Effects	Coefficient (<i>SE</i>)
Posttreatment TOP (intercept), γ_{00}	268.60 (2.47)***
Baseline TOP _b , γ_{01}	0.52 (0.10)***
PsychBC, γ_{03}	16.86 (5.84)**
DI, γ_{04}	5.51 (2.91)
Therapist personal relational humility, γ_{05}	-0.15 (0.25)
Baseline TOP _w –posttreatment TOP _w slope, γ_{10}	0.56 (0.09)***
Treatment length _w –posttreatment TOP _w slope, γ_{20}	-0.23 (0.19)
Case assignment condition _w - posttreatment TOP _w slope, γ_{30}	-5.58 (4.30)
Random Effects	Variance component
<i>Level 1</i>	
Residual	460.52***
<i>Level 2</i>	
Posttreatment TOP (intercept)	5.01
Within-therapists baseline total TOP–posttreatment total TOP association (slope)	0.06**

Note. *SE* = standard error; TOP = *Treatment Outcome Package*; _b = between-therapist effect;

_w = within-therapist effect; PsychBC = Psychological and Behavioral Consultants; DI =

Albert and Jessie Danielsen Institute. Case assignment condition (for PsychBC patients) was

coded as the following: match condition = 1, nonmatch condition = 0. Site was coded as the

following: for PsychBC, PsychBC patient = 1, non-PsychBC patient = 0; for DI, DI patient =

1, non-DI patient = 0.

* $p < .05$

** $p < .01$

*** $p < .001$

PCF – Therapist-rated

Date _____

Provider TOP ID _____

PART I: Demographic & Clinical Experiences

Current Age (enter in years): _____

Gender (select applicable category):

- Male _____
- Female _____
- Transgender _____

Race/Ethnicity (select all that apply):

- White/Caucasian _____
- Hispanic _____
- African American _____
- Asian _____
- Native American Indian _____
- East Indian _____
- Other _____
- Other Description _____

Highest Current Degree:

- Bachelor’s Degree _____
- Master’s Degree (e.g., MA, MSW) _____
- LMHC _____
- Doctorate in Psychology (e.g., PhD, PsyD) _____
- MD _____
- Other _____
- Other Description _____

How many years have you been working as a clinician since you completed your highest training/degree?

PART II: Orientation & Clinical Practices

How much is your current therapy practice guided by each of the following theoretical frameworks?

	0=not at all			3=somewhat			6=very	
much								
Psychoanalytic/Psychodynamic	0	1	2	3	4	5	6	
Cognitive-Behavioral	0	1	2	3	4	5	6	
Humanistic/Experiential	0	1	2	3	4	5	6	
Interpersonal	0	1	2	3	4	5	6	
Systems	0	1	2	3	4	5	6	

Other (insert): _____ 0 1 2 3 4 5 6

To what extent do you *currently* regard yourself as having one *primary* orientation?

much 0=not at all 3=somewhat 6=very
0 1 2 3 4 5 6

To what extent do you *currently* regard your orientation as Integrative?

much 0=not at all 3=somewhat 6=very
0 1 2 3 4 5 6

Using the same 0-6 scale, please rate how characteristic each item is of your typical therapy practice.

much 0=not at all 3=somewhat 6=very
0 1 2 3 4 5 6

1. Encourage exploration of feelings regarded by the client as uncomfortable

_____ (e.g., anger, fear, excitement, sadness, or happiness).

2. Give explicit advice or direct suggestions to the client.

3. Actively initiate the topics of discussion and therapeutic activities.

4. Link client's current feelings or perceptions to experiences of the past.

5. Focus attention on similarities among the client's relationship repeated

_____ over time, settings, or people.

6. Focus discussion on the client's irrational or illogical belief systems.

7. Focus discussion on the relationship between the clinician and client.

8. Encourage the client to experience and express feelings in the session.

9. Suggest specific activities/tasks (homework) for the client to attempt

_____ outside sessions.

10. Address the client's avoidance of important topics and shifts in mood.

11. Explain the rationale behind your technique or approach to treatment.

12. Focus discussion on the client's future life situation.

13. Suggest alternative ways to understand experiences or events not previously recognized by the client.

14. Identify recurrent patterns in the patient's actions, feelings, and experiences.

15. Provide client with information/facts about symptoms, disorder, or treatment.

16. Allow the client to initiate the discussion of significant issues, events, or experiences.

17. Explicitly suggest that the client practice behavior learned in therapy between sessions.

18. Teach the client specific techniques for coping with symptoms.

19. Encourage discussion of client's wishes, fantasies, dreams, or early childhood memories (positive or negative).

20. Interact with the client in a teacher-like (didactic) manner.

21. Encourage the client to recognize social influences on his/her experience.

22. Encourage the client to express feelings in symbolic or artistic forms.

23. Encourage the client to develop a spiritual mindset.

24. Encourage the client to develop a mindfulness mindset.

25. Other (describe):

26. Other (describe):

Adult TOP Clinical Scales Form

IMPORTANT: Before answering any question, please read the message on the back regarding the purpose and use of this information.

OP4.2 Adult CS David R. Kraus, Ph.D. © BHL, 2004

ENGLISH

Indicate how much of the time during the past two weeks you have . . .

	All	Most	A lot	Some	A little	None	
1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	been satisfied with your relationships with others
2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	been satisfied with your daily responsibilities
3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	been satisfied with your general mood and feelings
4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	been satisfied with your life in general
5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	felt too much conflict with someone
6	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	been emotionally hurt by someone
7	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	felt someone else had too much control over your life
8	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	had trouble falling asleep
9	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	had nightmares
10	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	awakened frequently during the night
11	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	had trouble returning to sleep after awakening in the night
12	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	had a paying job
13	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	had conflicts with others at work or school regardless of fault
14	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	missed work or school for any reason
15	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	not been acknowledged for your accomplishments at work or school
16	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	had your performance criticized at work or school
17	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	not been excited about your work or school work
18	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	physically hurt someone else or an animal
19	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	had desires to seriously hurt someone
20	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	had thoughts of killing someone else
21	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	felt that you were going to act on violent thoughts
22	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	felt no desire for, or pleasure in, sex
23	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	felt sexually incompatible with your partner or frustrated by the lack of a partner
24	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	felt emotional or physical pain during sex
25	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	had trouble functioning sexually (having orgasms, ...)
26	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	had a racing heart
27	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	felt light-headed
28	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	had shortness of breath
29	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	had a dry mouth or trouble swallowing ("a lump in your throat")
30	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	had sweaty hands (clammy) or cold hands or feet
31	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	had to do something to avoid anxiety or fear (washing hands, ...)
32	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	avoided certain situations due to fear or panic
33	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	felt panic in places that would be hard to leave if necessary
34	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	felt down or depressed
35	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	felt little or no interest in most things
36	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	felt guilty
37	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	felt restless
38	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	felt worthless
39	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	felt tired, slowed down, or had little energy
40	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	worried about things
41	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	had trouble concentrating or making decisions
42	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	noticed your thoughts racing ahead
43	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	inflicted pain on yourself
44	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	felt rested after only a few hours of sleep
45	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	thought about killing yourself or wished you were dead
46	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	planned or tried to kill yourself
47	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	felt you were better than other people
48	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	felt on top of the world
49	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	worried that someone might hurt you
50	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	had unwanted thoughts or images
51	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	seen or heard something that was not really there
52	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	felt someone or something was controlling your mind
53	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	spent more time drinking or using drugs than you intended
54	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	neglected school, work, or other responsibilities because of using alcohol or drugs
55	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	felt you wanted or needed to cut down on your drinking or drug use
56	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	had your family, a friend, or anyone else tell you they objected to your alcohol or drug use
57	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	found yourself thinking about a drink or getting high
58	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	used alcohol or drugs to relieve uncomfortable feelings, such as sadness, anger, or boredom

Provider Code	Primary Dx	Payer request follow payer instructions or leave blank	<input type="radio"/> Pre-treatment assessment <input type="radio"/> Treatment starts today <input type="radio"/> First assessment during treatment <input type="radio"/> Middle of treatment assessment <input type="radio"/> Last assessment during treatment <input type="radio"/> Post treatment assessment	<input type="radio"/> Completely Self-Administered <input type="radio"/> Self-Administered with some assistance <input type="radio"/> Semi-structured Interview <input type="radio"/> Clinician Judgement
Client Code	<input type="radio"/> Case-Mix form is attached <input type="radio"/> Case-Mix not completed	Admin Units of service delivered Units listed are in... <input type="radio"/> Hours <input type="radio"/> Days		

TPS – Therapist-rated

Date: _____
Provider TOP ID: _____

The following items ask you to provide ratings regarding your perceived therapeutic effectiveness in specific domains. Some of these domains are symptom-specific, while others are related to functioning and treatment process. Please use the following 1-7 scale:

- 1-Always ineffective
- 2-Usually ineffective
- 3-Sometimes ineffective
- 4-Inconsistently effective
- 5-Sometimes effective
- 6-Usually effective
- 7-Always effective

1. In treating my clients' symptoms of **DEPRESSION**, I would say that I am:

2. In treating my clients' symptoms of **ANXIETY**, I would say that I am:

3. In treating my clients' symptoms of **MANIA**, I would say that I am:

4. In treating my clients' symptoms of **SUBSTANCE ABUSE**, I would say that I am:

5. In treating my clients' symptoms of **PSYCHOSIS**, I would say that I am:

6. In treating my clients' **SUICIDALITY**, I would say that I am:

7. In reducing my clients' risk of **VIOLENCE**, I would say that I am:

8. In improving my clients' **SEXUAL FUNCTIONING**, I would say that I am:

9. In improving my clients' **SOCIAL FUNCTIONING**, I would say that I am:

10. In improving my clients' **SLEEP**, I would say that I am:

11. In improving my clients' **WORK FUNCTIONING**, I would say that I am:

12. In improving my clients' **QUALITY OF LIFE**, I would say that I am:

13. In establishing and maintaining a positive **WORKING ALLIANCE** with my clients I would say that I am:

14. In instilling **POSITIVE OUTCOME EXPECTATIONS** with my clients, I would say that I am:

Please rank the following treatment domains in the order of your perceived relative effectiveness, with a ranking of **1 indicating most effective** relative to all other domains, and **12 indicating least effective** relative to all other domains:

- _____ DEPRESSION (reducing symptoms)
- _____ ANXIETY (reducing symptoms)
- _____ MANIA (reducing symptoms)
- _____ SUBSTANCE ABUSE (reducing symptoms)
- _____ PSYCHOSIS (reducing symptoms)
- _____ SUICIDALITY (reducing)
- _____ VIOLENCE (reducing risk)
- _____ SEXUAL FUNCTIONING (improving)
- _____ SOCIAL FUNCTIONING (improving)
- _____ SLEEP (improving)
- _____ WORK FUNCTIONING (improving)
- _____ OVERALL QUALITY OF LIFE (improving)

The following items ask you to provide ratings regarding your perceived therapeutic effectiveness **relative to other similarly trained and experienced clinicians** in specific domains. Some of these domains are symptom-specific, while others are related to functioning and treatment process. Please use the following 1-7 scale:

- 1-Always more ineffective
- 2-Usually more ineffective
- 3-Sometimes more ineffective
- 4-Inconsistently more effective
- 5-Sometimes more effective
- 6-Usually more effective
- 7-Always more effective

1. Compared to other clinicians, in treating my clients' symptoms of **DEPRESSION**, I would say that I am:

2. Compared to other clinicians, in treating my clients' symptoms of **ANXIETY**, I would say that I am:

3. Compared to other clinicians, in treating my clients' symptoms of **MANIA**, I would say that I am:

4. Compared to other clinicians, in treating my clients' symptoms of **SUBSTANCE**

ABUSE, I would say that I am:

5. Compared to other clinicians, in treating my clients' symptoms of **PSYCHOSIS**, I would say that I am:

6. Compared to other clinicians, in reducing my clients' **SUICIDALITY**, I would say that I am:

7. Compared to other clinicians, in reducing my clients' risk of **VIOLENCE**, I would say that I am:

8. Compared to other clinicians, in improving my clients' **SEXUAL FUNCTIONING**, I would say that I am:

9. Compared to other clinicians, in improving my clients' **SOCIAL FUNCTIONING**, I would say that I am:

10. Compared to other clinicians, in improving my clients' **SLEEP**, I would say that I am:

11. Compared to other clinicians, in improving my clients' **WORK FUNCTIONING**, I would say that I am:

12. Compared to other clinicians, in improving my clients' **QUALITY OF LIFE**, I would say that I am:

13. Compared to other clinicians, in establishing and maintaining a positive **WORKING ALLIANCE** with my clients, I would say that I am:

14. Compared to other clinicians, in instilling **POSITIVE OUTCOME EXPECTATIONS** with my clients, I would say that I am:

Clinicians may have preferences for the types of clients with whom they would like to work. The following is a list of characteristics that clients may possess. Please provide preference ratings for each of the following client characteristic using the following 1-5 scale:

- 1-Strongly prefer not to work with this type of client
- 2-Somewhat prefer not to work with this type of client
- 3-No particular preference for this type of client (neither prefer nor do not prefer)
- 4-Somewhat prefer to work with this type of client
- 5-Strongly prefer to work with this type of client

1. Problem Domains:

- a. Depression _____
- b. Anxiety _____
- c. Substance abuse _____
- d. Relationship problems _____
- e. Psychosis _____
- f. Sexual functioning _____
- g. Mania _____
- h. Violence _____
- i. Suicide _____
- j. Sleep _____
- k. Existential _____
- l. Other (describe and rate) _____

2. Personality:

- a. Extraverted _____
- b. Introverted _____
- c. Neurotic _____
- d. Agreeable _____
- e. Conscientiousness _____
- f. Open to experience _____

3. Demographic:

- a. Men _____
- b. Women _____
- c. Younger adults _____
- d. Older adults _____
- e. Religious/spiritual _____
- f. Similar race/ethnicity (to your own) _____
- g. Different race/ethnicity (from your own) _____

A variety of resources are available to clinicians that may assist in enhancing one's effectiveness. For the following list of potential resources, please provide a rating of (a) how often you seek out this resource, and (b) how helpful you have found this resource in enhancing your therapy practice:

Frequency Scale (1-5)

- 1-Never Use/Seek This
- 2-Rarely Use/Seek This
- 3-Sometimes Use/Seek This
- 4-Often Seek/Use This
- 5-Always Use/Seek This

Helpfulness Scale (1-5)

- 1-Not At All Helpful
- 2-Minimally Helpful
- 3-Somewhat Helpful
- 4-For the Most Part Helpful
- 5-Extremely Helpful

	<u>Frequency</u>	<u>Helpfulness</u>
1. TOP Reports	_____	_____
2. Journal Articles	_____	_____
3. Books	_____	_____
4. Peer Consultation	_____	_____

- | | | |
|-------------------------------|-------|-------|
| 5. Supervision | _____ | _____ |
| 6. Workshops | _____ | _____ |
| 7. Other (describe and rate) | _____ | _____ |
| 8. Other (describe and rate) | _____ | _____ |
| 9. Other (describe and rate) | _____ | _____ |
| 10. Other (describe and rate) | _____ | _____ |

HLM Equation Study 1

Level-1 Model

$$\text{Posttreatment TOP}_{ij} = \beta_{0j} + \beta_{1j} * (\text{Within-Therapist Baseline TOP}_{ij}) + \beta_{2j} * (\text{Within-Therapist Treatment Length}_{ij}) + r_{ij}$$

Level-2 Model

$$\beta_{0j} = \gamma_{00} + \gamma_{01} * (\text{Between-Therapist Baseline TOP}_j) + \gamma_{02} * (\text{Therapist Self-Perceived Effectiveness}_j) + u_{0j}$$

$$\beta_{1j} = \gamma_{10} + u_{1j}$$

$$\beta_{2j} = \gamma_{20}$$

At level 1, the posttreatment TOP total score for patient i treated by therapist j was predicted by the level 1 intercept (β_{0j}), within-therapist (between-patient) differences in baseline TOP severity (β_{1j}), and within-therapist differences in treatment length (β_{2j}). At level 2, each of these parameters (β_{0j} , β_{1j} , β_{2j}) dropped down to become the outcome variables. Posttreatment TOP severity (β_0) was then predicted by between-therapist (caseload-level) differences in baseline TOP total scores (γ_{01}) and the relevant therapist self-perceived effectiveness variable (i.e., accuracy, underestimation, and overestimation; γ_{02}). Fixed effects for the intercept (β_{0j}), or each therapists' average (caseload-level) posttreatment patient outcome after adjusting for patient-level (level 1) differences in severity and treatment length, represent the posttreatment outcome for a therapist with a caseload of average severity and an average level of the relevant self-perceived effectiveness variable (γ_{00}), the association between caseload-level severity differences and caseload-level posttreatment outcome (γ_{01}), and the association between the relevant therapist self-perceived effectiveness variable and caseload-level posttreatment outcome (γ_{02}). Although not of theoretical interest in the present study, the fixed effects for the other covariates represent the within-therapist severity-outcome association (γ_{10}) and the within-therapist treatment length-outcome association (γ_{20}). Random effects (u_{0j} , u_{1j}) allowed the relevant level 2 outcomes to vary across therapists.

Adapted RHS

Please indicate the extent to which the following statements describe yourself.

1 = Strongly Disagree

5 = Strongly Agree

1. I have a humble character.
2. I am truly a humble person.
3. Most people would consider me to be a humble person.
4. My close friends would consider me humble.
5. Even strangers would consider me humble.
6. I think of myself too highly.
7. I have a big ego.
8. I think of myself as overly important.
9. Certain tasks are beneath me.
10. Others feel inferior when they are with me.
11. I strike others as self-righteous.
12. I do not like doing menial tasks for others.
13. I know myself well.
14. I know my strengths.
15. I know my weaknesses.
16. I am self-aware.

HLM Equation Study 2

Level-1 Model

$$\text{Posttreatment TOP}_{ij} = \beta_{0j} + \beta_{1j} * (\text{Within-Therapist Baseline TOP}_{ij}) + \beta_{2j} * (\text{Within-Therapist Treatment Length}_{ij}) + \beta_{3j} * (\text{Case Assignment Condition}_{ij}) + r_{ij}$$

Level-2 Model

$$\beta_{0j} = \gamma_{00} + \gamma_{01} * (\text{Between-Therapist Baseline TOP}_j) + \gamma_{02} * (\text{Between-Therapist Treatment Length}_j) + \gamma_{03} * (\text{PsychBC [Site 1]}_j) + \gamma_{04} * (\text{DI [Site 2]}_j) + \gamma_{05} * (\text{Therapist Personal Relational Humility}_j) + u_{0j}$$

$$\beta_{1j} = \gamma_{10} + u_{1j}$$

$$\beta_{2j} = \gamma_{20}$$

$$\beta_{3j} = \gamma_{30}$$

At level 1, the posttreatment TOP total score for patient i treated by therapist j was predicted by the level 1 intercept (β_{0j}), within-therapist (between-patient) differences in baseline TOP (β_{1j}), within-therapist differences in treatment length (β_{2j}), and within-therapist differences in case assignment condition (β_{3j} ; from the aforementioned match trial). At level 2, each of these parameters (β_{0j} , β_{1j} , β_{2j} , β_{3j}) dropped down to become the outcome variables. Fixed effects for the intercept (β_{0j}), or each therapists' average (caseload-level) posttreatment patient outcome after adjusting for patient-level (level 1) differences in baseline severity, treatment length, and case assignment condition represent the posttreatment outcome for a therapist with a caseload of average severity and an average level of personal relational humility (γ_{00}), the association between caseload-level severity differences and caseload-level posttreatment outcome (γ_{01}), the association between caseload-level treatment length differences and caseload-level posttreatment outcome (γ_{02}), the association between site differences and caseload-level posttreatment outcome (γ_{03} , γ_{04}), and the association between caseload-level differences in therapist personal relational humility and caseload-level posttreatment outcome (γ_{05}). The remaining fixed effects represent the within-therapist severity-outcome association (γ_{10}), the within-therapist treatment length-outcome association (γ_{20}), and the case assignment-outcome association (γ_{30}). Random effects (u_{0j} , u_{1j}) allowed the relevant level 2 outcomes to vary across therapists.