# Therapist Empathy and Client Outcome: An Updated Meta-analysis

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#### Abstract

Put simply, empathy refers to understanding what another person is experiencing or trying to express. Therapist empathy has a long history as a hypothesized key change process in psychotherapy. We begin by discussing definitional issues and presenting an integrative definition. We then review measures of therapist empathy, including the conceptual problem of separating empathy from other relationship variables. We follow this with clinical examples illustrating different forms of therapist empathy and empathic response modes. The core of our review is a meta-analysis of research on the relation between therapist empathy and client outcome. Results indicated that empathy is a moderately strong predictor of therapy outcome: mean weighted r = .28 (p < .001; 95% confidence interval: .23 - .33; equivalent of d = .58) for 82 independent samples and 6,138 clients. In general, the empathy-outcome relation held for different theoretical orientations and client presenting problems; however, there was considerable heterogeneity in the effects. Client, observer, and therapist perception measures predicted client outcome better than empathic accuracy measures. We then consider the limitations of the current data. We conclude with diversity considerations and practice recommendations, including endorsing the different forms that empathy may take in therapy.

## **Clinical Impact Statement**

**Question:** Does therapist empathy predict success in psychotherapy?

**Findings:** In general, clients have moderately better outcomes in psychotherapy when clients, therapists and observers perceive therapists as understanding them.

**Meaning:** Empathy is an important element of any therapeutic relationship, and worth the investment of time and effort required to do it well and consistently.

**Next Steps:** Careful research using diverse methods is needed to firmly establish and explain the causal role of therapist empathy in bringing about client outcome; clinicians can contribute by identifying situations in which empathy may be particularly valuable or conversely contraindicated.

**Keywords**: empathy, psychotherapy relationship, psychotherapy process-outcome research, therapist factors, meta-analysis

# Therapist Empathy and Client Outcome: An Updated Meta-analysis

Proposed and codified by Rogers and his followers in the 1940's and 1950's, therapist empathy was widely portrayed as a therapist trait and put forward as the foundation of helping skills training programs popularized in the 1960's and early 1970's. After that, research on empathy went into relative eclipse, resulting in a dearth of research between 1980 and 2000.

Since the late-1990's, however, empathy has again become a topic of scientific interest in clinical, developmental, and social psychology (e.g., Bohart & Greenberg, 1997; Ickes 1997), with empathy now has been reconceptualized as an interactional variable and a key element of the new field of social neuroscience (e.g., Decety & Ickes, 2009). These developments have helped re-legitimize empathy as a central element of psychotherapy, which has led to an explosion of empathy research in the past 20 years. In fact, interest in empathy has recently rippled into related disciplines such as medicine, where it is now an active topic of investigation in a wide range of medical interventions (from anesthesiology to acupuncture) using a diverse array of measures (Pedersen, 2009).

# **Definitions and Measures**

There is no single, consensual definition of empathy (Bohart & Greenberg, 1997; Duan & Hill, 1996; Batson, 2009; Pedersen, 2009), a problem that has grown worse as interest in empathy has spread to other fields. We started by synthesizing a range of contemporary dictionary definitions to provide a list of essential features:

- 1. Empathy is interpersonal and unidirectional, provided by one person to another person.
- 2. Empathy is conceptualized primarily as an ability or capacity, and occasionally as an action.
- 3. Empathy involves a range of related mental abilities/actions, including
  - a. Primarily: Understanding the other person's feelings, perspectives, experiences, or

### motivations

- b. But also: Awareness of, appreciation of, or sensitivity to the other person
- c. Achieved via: Active entry into the other's experience, described variously in terms of vicariousness, imagination, sharing or identification.

Several features of this definition can be criticized, for example, that it portrays empathy in outmoded trait-like terms, that it ignores the role of the recipient, that it is too broad, and that it involves a mysterious or potentially misleading process of identification (cf. Bloom, 2016).

We think that recent neuroscience research on the three main brain correlates or subprocesses of empathy can provide useful clarification (see summary by Eisenberg & Eggum, 2009): First, there is a generally automatic, intuitive *emotional simulation* process that mirrors the emotional elements of the other's bodily experience with brain activation centering in the limbic system (amygdala, insula, anterior cingulate cortex; Decety & Lamm, 2009; Goubert, Craig, & Buysse, 2009). Second, a more deliberate, conceptual, *perspective-taking* process operates, particularly localized in medial and ventromedial areas of prefrontal cortex and the temporal cortex (Shamay-Tsoory, 2009). Third, there is an *emotion-regulation* process that people use to reappraise or soothe their personal distress when vicariously experiencing the other person's pain or discomfort, allowing them to mobilize compassion and helping behavior for the other (probably based in orbitofrontal cortex, as well as in the prefrontal and right inferior parietal cortex; Decety & Lamm, 2009; Eisenberg & Eggum, 2009).

Interestingly, the two therapeutic approaches that have most focused on empathy -person-centered therapy and psychoanalytic – have emphasized its cognitive or perspectivetaking aspects (Selman, 1980), focusing mainly on understanding the client's frame of reference
or way of experiencing the world. By some accounts, 70% or more of Carl Rogers' responses

were to felt meaning rather than to feeling, despite the fact that his mode of responding is typically called "reflection of feeling" (Brodley & Brody, 1990). In addition, empathy and sympathy have typically been sharply differentiated, with therapists such as Rogers disdaining sympathy but prizing empathy (Shlien, 1997). In affective neuroscience terms, this means that therapists in these traditions have often emphasized conscious perspective-taking processes over the more automatic, bodily-based emotional simulation processes.

Nevertheless, it is easy to see both processes in Rogers' (1980) definition of empathy:
"the therapist's sensitive ability and willingness to understand the client's thoughts, feelings and struggles from the client's point of view. [It is] this ability to see completely through the client's eyes, to adopt his frame of reference..." (p. 85)..... "It means entering the private perceptual world of the other...being sensitive, moment by moment, to the changing felt meanings which flow in this other person... It means sensing meanings of which he or she is scarcely aware...."

(p. 142)

Defined this way, empathy is a higher-order process, under which different subtypes, aspects, and modes can be nested. For example, we find it useful to distinguish among three main modes of therapeutic empathy. First, for some therapists empathy is the establishment of empathic *rapport* and support. The therapist exhibits a benevolent compassionate attitude towards the client and tries to demonstrate that he or she understands the client's experience, often to set the context for effective treatment. Second, *communicative attunement* consists of an active effort to stay attuned on a moment-to-moment basis with the client's communications and unfolding experience. Humanistic and person-centered-experiential therapists are most likely to emphasize this form of empathy. The therapist's attunement may be expressed in many ways, but most likely in empathic responses. The third mode, *person empathy* (Elliott, Watson, Goldman &

Greenberg, 2003) or experience-near understanding of the client's world, consists of a sustained effort to understand the historical and present context or background of the client's current experiencing. The question is: How have the client's experiences led him or her to see/feel/think/act as he or she does? This is the type of empathy emphasized by psychodynamic therapists. However, these three modes of empathic understanding are not mutually exclusive, and the differences are a matter of emphasis.

Many other definitions for empathy have been advanced: as a trait or response skill (Egan, 1982; Truax & Carkhuff, 1967), as an identification process of "becoming" the experience of the client (Mahrer, 1997), and as a hermeneutic interpretive process (Watson, 2001). Perhaps the most practical conception, and one that we will draw on in our meta-analysis, is Barrett-Lennard's (1981) operational definition of empathy in terms of three perspectives: that of the therapist (empathic resonance), the observer (expressed empathy), and the client (received empathy).

Reflecting the complex, multidimensional nature of empathy, a confusing welter of measures has been developed. Within psychotherapy research, most measures of therapist empathy fall into the three above-mentioned categories described by Barrett-Lennard (1981). To these can be added a fourth category: empathic accuracy, defined as congruence between therapist and client perceptions of the client (Ickes, 1997; e.g., Duan & Hill, 1996). In this meta-analysis we have restricted ourselves to measures of empathy that go beyond rating the mere presence of supposedly empathic therapist response modes such as reflection or paraphrases of the client's words. There is a literature correlating frequency of reflections with outcome, with disappointing results (Orlinsky, Rønnestad & Willutzki, 2003). Instead, we looked for measures that assessed the quality of therapist empathy.

# Observer Ratings

Some of the earliest observer measures of empathy were those of Truax and Carkhuff (1967). These scales ask raters to decide if the content of the therapist's response detracts from the client's response, is interchangeable with it, or adds to it. Typically, trained raters listen to two-to-fifteen minute samples from session audio recordings. In spite of later criticism (Lambert, De Julio, & Stein, 1978), these scales have been widely used. More recent observer empathy measures are based on broader understandings of forms of empathic responding and measure multiple component elements of empathy (e.g., Watson & Prosser, 2002).

## Client Ratings

The most widely used client-rated measure of empathy is the empathy scale of the Barrett-Lennard Relationship Inventory: Other to Self (OS) version (B-LRI: Form-OS), although other client rating measures have also been developed (e.g., Saunders, Howard & Orlinsky, 1989) as well. Rogers (1957) hypothesized that clients' *perceptions* of therapists' facilitative conditions (unconditional positive regard, empathy, and congruence) predict therapeutic outcome. Accordingly, the B-LRI, which measures clients' perceptions, is an operational definition of Rogers' hypothesis. In several earlier reviews, including our previous meta-analyses in *Psychotherapy Relationships That Work* (Norcross, 2001, 2011), client-perceived empathy predicted outcome better than observer- or therapist-rated empathy (Barrett-Lennard, 1981; Gurman, 1977; Elliott et al., 2011; Orlinsky, et al., 2003).

# Therapist Ratings

Therapist empathy self-rating scales are not as common, but probably the most widely used is the B-LRI Myself to Other (MO) version (B-L RI: Form-MO). Earlier reviews (Barrett-Lennard, 1981; Gurman, 1977) found that therapist-rated empathy neither predicted outcome nor

correlated with client-rated or observer-rated empathy. However, we previously found that therapist-rated empathy did predict outcome, but at a lower level than client or observer ratings (Elliott et al., 2011).

Empathic Accuracy

Several studies have used measures of therapist-client perceptual congruence, commonly referred to as "empathic accuracy" (Ickes, 1997). These typically consist of therapists rating or describing clients as they think the clients would see themselves on various measures, such as personality scales or lists of symptoms, and then comparing these ratings to how clients actually rated themselves. The measure of empathy is the degree of congruence between therapist and client ratings, thus providing a measure of therapist global person empathy. Recent work on empathic accuracy, however, does assess communicative attunement (Ickes, 1997, 2003) by using a tape-assisted recall procedure in which therapists' or observers' moment-to-moment perceptions are compared to clients' reports of those experiences (e.g., Kwon & Jo, 2012). *Correlations among Empathy Measures* 

Intercorrelations of empathy measures have generally been weak. Low correlations have been reported between cognitive and affective measures (Gladstein et al., 1987) and between accuracy measures and the BLRI (Kurtz & Grummon, 1972). Other research has found that taperated measures correlate only moderately with client-perceived empathy (Gurman, 1977). These low positive correlations are not surprising when one considers what the different instruments are supposed to be measuring. However, Watson's observer measure of empathy did correlate with the B-LRI:OS client measure at .66 (Watson & Prosser, 2002).

Confounding Between Empathy and Other Relationship Variables

A related concern is the distinctiveness of empathy from other facets of the therapeutic

relationship. One early review of more than 20 studies primarily using the B-LRI found that, on average, empathy correlated .62 with congruence and .53 with positive regard (Gurman, 1977). Factor analysis of scale scores found that one global factor typically emerged, with empathy loading on it along with congruence and positive regard (Gurman, 1977). Such results suggest that clients' perceptions of empathy are not clearly differentiated from their perceptions of other relationship factors.

In this regard, we found that many measures of empathy create conceptual confusion by including aspects of both empathy and positive regard. For example, a well-known empathy scale (Burns & Nolen-Hoeksema, 1992), included in our previous meta-analyses, has more items dealing with positive relationship qualities in general than it does specific empathy items. We decided in this meta-analysis to apply a content validity criterion by including only studies in which the "empathy" scale included at least 50% of items we could clearly identify as empathy. Furthermore, there is both conceptual and measurement overlap between empathy and other recent relationship constructs such as compassion (e.g., Strauss et al. 2016), presence (Geller, Greenberg, & Watson, 2010), and responsiveness (Elkin et al., 2014).

As we see it, while it is possible at a conceptual level to distinguish empathy from other relationship constructs, in practice this turns out to be a reductionist fiction, treating relationships as if they were the constituent elements of chemical compounds. Ultimately, we think that it is more useful to treat empathy (and other relationship constructs) as components of a higher-order therapeutic relationship.

## **Clinical Examples**

In this section we provide a running case example of different types of empathy taught in contemporary empathy training (e.g., Elliott et al., 2003; Johnson et al., 2005). "Rick" (a clinical

amalgam) was a 30-year-old unmarried man from a family of unsympathetic high achievers. He presented saying that he was anxious and worried much of the time, and at his first appointment he was clearly agitated. At the beginning of therapy, Rick's therapist focused on building *rapport* using empathic understanding responses to validate the client's perspective. For example:

- C: I'm really in a panic (anxious, looking plaintively at the therapist). I feel anxious all the time.

  Sometimes it seems so bad, I really worry that I'm on the verge of a psychotic break. I'm afraid I'll completely fall apart. Nothing like this has ever happened to me before.
- T: So feeling really, really anxious as if you might break down (empathic reflection) it is just so hard to control and manage it (empathic affirmation).
- C: Yes! I don't know myself anymore. I feel so lost. The anxiety's like a big cloud that just takes over, and I can't even find myself in it anymore. I don't even know what I want, what to trust....I'm so lost.
- T: So you feel so lost, like you don't even know yourself or what you want and need. No wonder you feel lost if it takes over like that. Anxiety can do that, ambushing us and taking over
- C: (Client tearing up:) Yes, I do feel ambushed and confused (sadly and thoughtfully).

The therapist's empathic recognition provided the client with a sense of being understood, building rapport, and fostering a sense of safety that gradually helped the client move from agitation into reflective sadness. To facilitate this the therapist began using more *exploratory empathy*, trying to get at the implicit or unspoken feelings in the client's narratives, including emerging experiences. For example:

- T: And I hear that this leaves you feeling, sort of, almost sad? (empathic conjecture)
- C: Yes, this is such a familiar feeling...I always felt lost as a kid. Everyone was always so busy -

- there was no place for me. My siblings were focused on their sports and academic achievements. I was the youngest so I was expected to tag along to their activities even though I hated it. It was so boring!
- T: It sounds almost as if you felt like the odd one out in your family, like you didn't quite fit in somehow? (exploratory reflection)
- C: Yes, very much so. There was so much going on. Mum was always busy with her activities or driving my siblings somewhere. I used to escape with my books and my music.

To further amplify the client's experience the therapist next uses *evocative empathy*, attempting to bring the client's experience alive in the session using rich, evocative, concrete language, often with a probing, tentative quality. For example:

T: So you felt forgotten somehow? I have an image of you as a little boy sitting alone in a corner curled up with your book as the people around you rushed to and fro?

C: Yes, I used to hide away and try to disappear (Client's voice breaks)

The therapist continues to facilitate the exploration of the client's inner experience using *process empathy* and *empathic conjectures*. For example, while watching Rick the therapist noticed that her client's voice shifted and that he looked very sad.

- T: I noticed your voice changed just then (process reflection). You look very sad; are you?

  (empathic conjecture) What is happening inside as you recall the busy household?

  (exploratory question)
- C: I feel like I can't live up to their expectations. Even though I know I've got all this potential, I always feel there is something wrong with me.

These examples demonstrate how therapists work to remain *communicatively attuned* to their clients on a moment to moment basis in the session. And as clients continue to share and

explore their experiences, therapists begin to develop a sense of *person empathy*, providing a more holistic understanding of their clients.

## **Results of Previous Reviews**

Major reviews of the empathy literature have occurred since the 1970s (Gurman, 1977; Lambert et al., 1978; Parloff, Waskow & Wolfe, 1978; Truax & Mitchell, 1971). More recently, Orlinsky and colleagues (1994, 2003) separated out therapist-client mutual empathic resonance and reported strong results using a box score method.

The first meta-analyses to focus specifically on the empathy-outcome literature were the two previous versions of this meta-analysis (Bohart, Elliott, Greenberg & Watson, 2002; Elliott, Bohart, Watson & Greenberg, 2011), which reported a moderately positive but variable relation between therapist empathy and client outcome. Specifically, the 2011 meta-analysis was conducted on 57 studies (224 effects) and encompassed a total of 3,599 clients. The average weighted correlation between empathy and outcome was an r of .31.

# **Meta-Analytic Review**

In this section we report the results of an updated meta-analysis conducted on available research relating empathy to psychotherapy outcome. We addressed the main question of the overall association between therapist empathy and client outcome. Additionally, we investigated potential moderators of that association, including forms of psychotherapy, type of empathy measure, and client presenting problem.

# Search Strategy

We started with the studies used in our two previous meta-analyses (Bohart et al., 2002; Elliott et al., 2011), which included studies gathered from a wide variety of sources. We then did an inclusive search of PsycInfo for all years, using the search terms:

- "empathy" or "empathic"
- AND "psychotherapy" OR "counseling" OR "counselling"
- AND "change" OR "outcome\*" OR "improvement"
- AND methods: empirical study, quantitative study, treatment outcome, or clinical trial
   Screening and Analyses

This search produced 2,222 potential sources, which were then screened systematically as documented in Table 1. The inclusion criteria were process outcome research studies relating measured therapist empathy to psychotherapy outcome in which a correlation or sufficient information was reported to calculate one. The abstracts of the potential sources were screened by the four co-authors, with a sample of 200 studies to assess reliability (kappa = .61). This process resulted in 148 sources being retained. Screening for duplicates resulted in dropping 15 sources, 14 of which had been included in the previous version of this meta-analysis, which covered sources through 2008 (Elliott et al., 2011). This process resulted in 133 sources, of which we were able to locate full texts for 99 (most of the dropped sources were doctoral dissertations). The exclusion criteria were again applied to these 99 full text sources, which were each evaluated by two of the co-authors (kappa = .45), with all disagreements resolved by discussion to consensus, resulting in 24 studies being retained in the analysis.

These 24 studies were added to 58 studies that were carried over from our prior metaanalysis (Elliott et al., 2011), resulting in a total of 82 samples of clients (from 80 separate studies), aggregated from 290 separate tests of the empathy-outcome association and encompassing a total of 6138 clients, who were seen for an average of 25 sessions.

For each study, we coded therapy format, theoretical orientation, therapist experience, treatment setting, number of sessions, type of problems, source of outcome measure, when

outcome was measured, type of outcome measured, source of empathy measure, and unit of measure. We analyzed by effects and by studies: First, we analyzed the 290 separate effects in order to examine the impact of perspective of empathy measurement and type of outcome. Second, study-level analyses used averaged individual effects within client samples before further analysis, thus avoiding problems of nonindependence and eliminating bias due to variable numbers of effects reported in different studies (Lipsey & Wilson, 2001). For summarizing analyses across studies, including moderator analyses, we used Fisher's r-to-z transformation, weighted studies by inverse error (n-3), and analyzed for heterogeneity of effects with Cochrane's Q under a restricted maximum likelihood (REML) random effects model, using Wilson's (2006) macros for SPSS. We also calculated  $I^2$  (Higgins, Thompson, Deeks & Altman, 2003), fail safe numbers (vs. r = .2), and created a funnel plot.

# Overall Empathy-Outcome Association

Probably the single best summary value, as shown in Table 2, is the study-level random effects weighted r of .28 (95% confidence interval of .23 - .33), a medium effect size (equivalent to d = .58). For analyses of the 290 nonindependent separate effects, average effects were somewhat smaller, at .21 (95% CI: .18 - .24; equivalent to d = .43). These values were similar to our previous reviews (Bohart et al., 2002; Elliott et al., 2011) and indicate that empathy generally accounts for about 9% of the variance in therapy outcome. This effect size is on the same order of magnitude as analyses of the relation between the alliance in individual therapy and treatment outcome (Fluckiger et al., this issue; d = .57). Overall, empathy typically accounts for more outcome variance than do specific treatment methods (compare Wampold's, 2015, estimate of d = .2 for intervention effects).

We also assessed the likelihood of bias, either due to studies with negative effects not

being published or to smaller studies with weaker methods producing more favorable results. First, we calculated the fail-safe number, that is, the number of studies with r = 0 results required to reduce the weighted effect to a minimum clinically interesting value of r = .2 (see Table 2). This value was 33 studies for the study level effect of .28; the comparable number for effect level effects was only 12. Second, we created a funnel plot of the relation between effect size and level of standard error of r (equal to r = .2). The correlation between standard error of r and effect size was .06, indicating an absence of bias deriving from smaller studies with less precise effects producing larger effects. Further, as can be seen in Figure 1, the funnel plot is quite symmetrical, making it unlikely that the overall effect would be shifted negatively if a larger number of more powerful studies were to be published.

Nevertheless, the .28 value conceals statistically significant variability in effects, as indicated by a study-level Cochrane's Q of 348.68 (p < .001) and a large  $I^2$  of 72%. Figure 1 also attests to the wide variability of effects, even in studies with reasonably large samples and small standard errors. These findings mean that an examination of possible moderators of the empathyoutcome association is essential (Lipsey & Wilson, 2001).

### **Moderators and Mediators**

## Meta-Analytic Moderator Analyses

Although the significant Q and large  $I^2$  statistics point to the existence of heterogeneity in the effects, they do not specify what these are. We began by analyzing theoretical orientation, but failed to find statistically significant differences (between groups Q=1.41, df = 3, 78). We did, however, replicate the significant differences we previously found among the empathy measurement perspectives, using effect level analyses (Table 3; between-groups Q, p < 0.001). Specifically, client measures predicted outcome the best (mean weighted r = 0.27; k = 117

effects), slightly better than observer rated measures (.21; n = 102) and therapist measures (.19; k = 37); each of these mean effects was significantly greater than zero (p < .001) but did not differ significantly from each other. In contrast, empathic accuracy measures were unrelated to outcome (.01; n = 34, ns), with their mean effect statistically smaller than effects for each of the other three measures (p < .05).

A new feature of this meta-analysis was the analysis of effects for client populations, grouped into five broad categories. The largest empathy-outcome association was for severe/chronic incarcerated populations (.32; k = 15 studies), mixed/unspecified (.30; k = 44), and depressed/anxious (.26; k = 10). Smaller effects were found for mild/normal/physical problems (.17; k = 6) and self-damaging activities (e.g., substance misuse; .19; k = 7). Although the overall between-groups effect was statistically significant (Q = 70.15, df = 4, 76; p < .01), none of the paired comparisons were significant.

Finally, we used backwards stepwise regression (random effects, REML analyses), to examine several other variables that might account for some of the heterogeneity of the effects. Four of these continuous variables significantly predicted larger effect sizes (p < .05): reporting fewer effects in a study (beta = -.30), having a smaller sample of clients (-.24), outpatient setting (-.31), and outcome globality (.28). Together, these four variables accounted for 33% of the variance in effect size.

To sum up the results of the moderator analyses: We found that the empathy-outcome association held up across a wide range of variables, both substantive (client presenting problem/severity, therapy format, theoretical orientation) and methodological (year of publication, level/size of unit at which empathy was measured). Therapist empathic accuracy did not predict outcome, but client, therapist, and observer ratings of perceived empathy did. We

found a "more is less" effect: the more ambitious (in terms of number of clients) and wider ranging studies (in terms of range of measures) produced smaller effects. Using global outcome variables like client satisfaction resulted in larger associations between therapist empathy and outcome, possibly because of confounding between client perceptions of empathy and client ratings of post-therapy satisfaction. There was some evidence that empathy-outcome association was stronger for clients in outpatient settings.

## **Therapist Mediators**

Our meta-analysis did not examine mediators of empathy; however, the available literature points to some interesting possibilities. The degree of similarity (e.g., of values) between therapist and client (Duan & Hill, 1996; Gladstein et al., 1987; Watson, 2001) may influence the level of empathy. Another vital factor is therapist nonlinguistic and paralinguistic behavior. This encompasses therapists' posture, vocal quality, ability to encourage exploration using emotion words, and the relative infrequency of talking too much, giving advice, and interrupting (Duan & Hill, 1996; Watson, 2001). Other research has shown that responses that are just ahead of the client seem to be more effective than responses which are either at the same level as the client, or at a more global level (Sachse, 1990a, b; Tallman et al., 1994; Truax & Carkhuff, 1967).

In a qualitative study of clients' experience of empathy, therapist interrupting, failing to maintain eye contact, and dismissing the client's position while imposing the therapist's own position were all perceived as unempathic (Myers, 2000). Conversely, being nonjudgmental, attentive, open to discussing any topic, and paying attention to details were perceived as empathic. There appears however, to be no particular set of therapist behaviors or techniques that clients universally identify as "empathic" (Bachelor, 1988). This suggests that in part it is clients'

experience of what happens in therapy that matters.

### **Client Contributions**

Clients contribute to both the experience of empathy and its effects in psychotherapy in several ways. Empathy may be at least as much a client variable as it is a therapist variable. Who the client is almost certainly influences therapist empathy. For example, Kiesler et al. (1967) found that levels of observer-rated empathy were higher with clients who had less pathology, who were brighter, but yet were lower in self-esteem. Client revelation is an essential link in the cycle of empathy (Barrett-Lennard, 1980). Clients who are more open to and communicate their inner experiencing will be easier to empathize with.

It is probably more accurate to say that empathy is interactionally constructed (Brodley, 2002; Wynn & Wynn, 2006), which can happen in different ways. First, it matters how clients and therapists mutually perceive one another. In a recent study (Murphy & Cramer, 2014), researchers determined that when therapists and clients mutually perceived one another as offering high levels of therapeutic facilitative conditions (including empathy), there was a stronger correlation with outcome.

On the other hand, not all clients respond favorably to explicit empathic expressions. One set of reviewers (Beutler, Crago, & Arizmendi, 1986) cited evidence that highly sensitive, suspicious, and oppositional patients perform relatively poorly with therapists who are particularly empathic and involved. Another study (Mohr & Woodhouse, 2000) found that some clients prefer business-like rather than warm, empathic therapists. Of course, when therapists are truly empathic they attune to their clients' needs and adjust how and how much they express empathy. Martin (2000, pp. 184-185) notes: "Think of the insensitive irony of a therapist who says, 'I sense the sadness you want to hide. It seems like you don't want to be alone right now

but you also don't want somebody talking to you about your sadness....' "This response might technically seem empathic, but in fact at a higher level, it is unempathic and intrusive, because it misunderstands the client's need for interpersonal distance. Variations among clients in desire for and receptivity to different expressions of empathy need further research.

## **Limitations of the Research**

Beyond the difficulties in making causal inferences from process-outcome correlations, many reviewers (e.g., Watson, 2001; Patterson, 1984) have described a range of problems with research on empathy. These include: (a) the questionable validity of some outcome measures (e.g., 15% of the studies included here used client-rated benefit or satisfaction with value of helpfulness of therapy as their main outcome measure); (b) restricted range of predictor and criterion variables; (c) confounding among many study characteristics (e.g., type of empathy and outcome variable, timing of empathy and outcome assessment, sample size, client presenting problem); and (d) incomplete reporting of methods and results. In fact, these and other problems are not restricted to empathy research but are common to all process-outcome research (Elliott, 2010). A notable limitations of our meta-analysis is the exclusion of unpublished doctoral dissertations, making it difficult to fully evaluate the possibility of publication bias.

We have proposed an integrated causal inference framework (presented in Table 3) that moves beyond simple correlations between therapeutic relationship conditions and client outcome, especially when these are only assessed post-therapy. It is our view that a mix of change process research methods is needed to do this, including careful qualitative studies of what clients find helpful, detailed discourse analysis on within-session empathy-based change processes, systematic case studies untangling causal processes using rich case records, and, most directly relevant to the subject of this meta-analysis, sophisticated path analysis or structural

equation modelling, cross-lagged panel or time series designs, and multilevel modeling methods. Such a comprehensive strategy will allow us to make sound causal inferences, especially those addressing the possibility of reverse causation (early client progress enhancing therapist empathy) and third variable causation issues (client pre-therapy distress and openness affecting both therapist and outcome).

# **Diversity Considerations**

Few studies have examined diversity or multi-cultural competence and therapist empathy. The development of multi-cultural competence is required of mental health professionals as reflected in training and accreditation guidelines. It is important for therapists working with diverse populations to be empathic with their clients' specific circumstances as well as the complexities inherent in their social and political locations (Fuertes et al., 2006). This in-depth understanding includes sensitivity to race, socio-economic status, gender, sex, religion as well as socio-political forces such as oppression and perceived micro-aggressions. Competent therapists working with diverse populations display high levels of not just rapport and communicative attunement to clients in session but also person empathy that embeds understanding of the client's social identities and the possible impact of societal discrimination.

Researchers such as Gillispie, Williams, and Gillispie (2005) have suggested that clients from diverse groups may have a greater need for therapists to be understanding, non-judgmental, and emotionally supportive during treatment to ensure their participation. Furthermore, some studies (e.g., Fuertes et al., 2007) have shown that multi-cultural competence may be important above and beyond empathy for ethnic minority clients, pointing to the possibility of diversity-related aspects of empathy not tapped by general empathy measures. Clearly, future research must examine the role of empathy (and other relationship variables) in working with clients from

diverse groups.

## **Therapeutic Practices**

As we have shown, empathy is a robust medium-sized predictor of client outcome in psychotherapy that holds across theoretical orientations, treatment formats, and client problems. This repeated finding, in more than 80 studies and now in multiple meta-analyses, leads to the following clinical recommendations:

- ♦ Psychotherapists continuously work to understand their clients and to demonstrate this understanding. The main idea is to be empathically attuned to import or impact of clients' experiences as opposed to their words or content. Empathic therapists do not parrot clients' words back or reflect only the content of those words; instead, they understand their clients' goals and tasks, their moment-to-moment experiences in the session, and their unspoken nuances and implications.
- ♦ Empathic responses require therapists to continually adjust their assumptions and understandings, attending to the leading edge of client experience to facilitate awareness of emerging feelings and perspectives.
- ♦ Our meta-analysis determined that clients' reports of therapist empathy best predict eventual treatment outcome. Thus, regularly assessing and privileging the client's experience of empathy, instead of trying to intuit whether therapist behavior is empathic or not can be helpful in treatment.
- ♦ Research has identified a range of useful empathic responses, several of which we presented in the clinical examples. Empathy is shown as much in how well the therapist receives, listens, respects, and attends to the client as in what the therapist does or says.
- ◆ There is no evidence that therapists accurately predicting clients' own views of their problems

or experiences or self-perceptions is effective. Therapists should neither assume that they are mind readers nor that their experience of the client will be matched by the client's experience. Empathy is best offered with humility and held lightly, ready to be corrected.

- ♦ Empathy is not only something that is "provided" by the therapist as if it were a medication, but is a co-created experience between a therapist trying to understand the client and a client trying to communicate with the therapist and be understood.
- ♦ Empathy entails individualizing responses to particular patients. We found significant heterogeneity in the empathy-outcome association, pointing to the value of personalization and clinical judgment. For example, certain fragile clients may find the usual expressions of empathy too intrusive, while hostile clients may find empathy too directive; still other clients may find an empathic focus on feelings too foreign (Kennedy-Moore &Watson, 1999). Effective empathic therapists know when -- and when not -- to respond with more or less empathically oriented responses (Leitner, 1995).
- ♦ Finally, because research has shown empathy to be highly correlated with the other relational conditions, therapists are advised to offer empathy in the context of positive regard and genuineness. Empathy will probably not prove effective unless it is grounded in authentic caring for the client. Any one of these conditions without the others would provide a distinctly different interpersonal climate and relationship. We encourage psychotherapists to value empathy as both an "ingredient" of a healthy therapeutic relationship as well as a specific, effective response that promotes strengthening of the self and deeper exploration.

### References

- \*Studies included in the meta-analysis are asterisked.
- Bachelor, A. (1988). How clients perceive therapist empathy—A content-analysis of received empathy. *Psychotherapy*, 25, 227-240. doi:10.1037/h0085337
- \*Barnicot, K., Wampold, B., & Priebe, S. (2014). The effect of core clinician interpersonal behaviours on depression. *Journal of Affective Disorders*, 167, 112-117. doi:10.1016/j.jad.2014.05.064
- \*Barrett-Lennard, G. (1962). Dimensions of therapist response as causal factors in therapeutic change. *Psychological Monographs*, 76, 43, Whole Number 562.
- Barrett-Lennard, G. T. (1981). The empathy cycle: Refinement of a nuclear concept. *Journal of Counseling Psychology*, 28, 91-100.
- \*Barrington, B. L. (1967). The differential effectiveness of therapy as measured by the Thematic Apperception Test. In C. R. Rogers et al. (Eds.), *The therapeutic relationship and its impact* (pp. 337-352). Madison: University of Wisconsin Press. . [combined with Kiesler, Mathieu, Klein & Schoeninger, 1967, and Van der Veen, 1967]
- Batson, C.D. (2009). These things called empathy: Eight related but distinct phenomena. In J. Decety & W. Ickes (Eds.) (2009). *The Social Neuroscience of Empathy* (pp. 3-15). Cambridge, MA: MIT Press.
- \*Bergin, A. E., & Jasper, L. G. (1969). Correlates of empathy in psychotherapy: A replication.

  \*Journal of Abnormal Psychology, 74, 477-481.
- Beutler, L. E., Crago, M., & Arizmendi, T. G. (1986). Research on therapist variables in psychotherapy. In S. L. Garfield & A. E. Bergin (Eds.), *Handbook of psychotherapy and behavior change* (3<sup>rd</sup> ed., pp. 257-310). New York: Wiley.

- \*Beutler, L. E., Johnson, D. T., Neville, C. W., & Workman, S. N. (1972). "Accurate empathy" and the AB dichotomy. *Journal of Consulting and Clinical Psychology*, *38*, 372-375.
- Bloom, P. (2016). Against empathy: The case for rational compassion. New York: Ecco.
- Bohart, A.C., Elliott, R., Greenberg, L.S., Watson, J.C. (2002). Empathy. In J. Norcross, *Psychotherapy relationships that work* (pp. 89-108). New York: Oxford University Press.
- Bohart, A. C., & Greenberg, L. S. (1997). Empathy: Where are we and where do we go from here? In in A. C. Bohart & L. S. Greenberg (Eds.), *Empathy reconsidered: New directions in psychotherapy* (pp. 419-450). Washington, DC: American Psychological Association.
- Brodley, B. T. (2002). Observations of empathic understanding in two client- centered therapists.

  In J. C. Watson, R. N. Goldman, & M. S. Warner (Eds.), *Client-centered and experiential psychotherapy in the 21st Century: Advances in theory, research and practice (pp. 182–203)*. Ross-on-Wye: PCCS Books.
- Brodley, B. T., & Brody, A. F. (1990, August). *Understanding client-centered therapy through*interviews conducted by Carl Rogers. Paper presented at the annual convention of the

  American Psychological Association, Boston, MA.
- \*Brouzos, A., Vassilopoulos, S. P., & Baourda, V. C. (2015). Members' perceptions of person-centered facilitative conditions and their role in outcome in a psychoeducational group for childhood social anxiety. *Person-Centered & Experiential Psychotherapies*, *14*, 32-46. doi:10.1080/14779757.2014.965843
- \*Brug, J., Spikmans, F., Aartsen, C., Breedveld, B., Bes, R., & Fereira, I. (2007). Training dietitians in basic motivational interviewing skills results in changes in their counseling style and in lower saturated fat intakes in their patients. *Journal of Nutrition Education & Behavior*, 39, 8-12. doi:10.1016/j.jneb.2006.08.010

- \*Buckley, P., Karasu, T. B., & Charles, E. (1981). Psychotherapists view their personal therapy.

  \*Psychotherapy: Theory, Research and Practice, 18, 299-305.
- \*Bugge, I., Hendel, D. D., & Moen, R. (1985). Client evaluations of therapeutic processes and outcomes in a university mental health center. *Journal of American College Health*, 33, 141-146. et al 1985
- \*Bullmann, F., Horlacher, K. D., & Kieser, B. (2004). Clarifying as a mediator-variable in person-centered psychotherapy and therapists' gender and therapy-school differences in empathy and positive regard. Unpublished study, Psychological Institute, University of Heidelberg.
- Burns, D. D., & Nolen-Hoeksma, S. (1992). Therapeutic empathy and recovery from depression in cognitive-behavioral therapy: A structural equation model. *Journal of Consulting and Clinical Psychology*, 60, 441-449.
- \*Cartwright, R. D., & Lerner, B. (1965). Empathy, need to change, and improvement in psychotherapy. *Journal of Consulting Psychology*, 27, 138-144.
- \*Clark, J. V., & Culbert, S. A. (1965). Mutually therapeutic perception and self-awareness in a T-group. *Journal of Applied Behavioral Science*, 1, 180-194.
- Cook, T.D., & Campbell, D.T. (1979). Quasi-experimentation: Design and analysis issues for field settings. Chicago: Rand McNally.
- \*Cooley, E. J., & La joy, R. (1980). Therapeutic relationship and improvement as perceived by clients and therapists. *Journal of Clinical Psychology*, 36, 562-570.
- \*Cramer, D., & Takens, R. (1992). Therapeutic relationship and progress in the first six sessions of individual psychotherapy: A panel analysis. *Counselling Psychology Quarterly*, 5, 25-36.

- Decety, J., & Ickes, W. (Eds.) (2009). *The Social Neuroscience of Empathy*. Cambridge, MA: MIT Press.
- Decety, J., & Lamm, C. (2009). Empathy versus Personal Distress: Recent evidence from social neuroscience. In J. Decety & W. Ickes (Eds.) (2009). *The Social Neuroscience of Empathy* (pp. 199-213). Cambridge, MA: MIT Press.
- \*Dicken, C., Bryson, R., & Kass, N. (1977). Companionship therapy: A replication in experimental community psychology. *Journal of Consulting and Clinical Psychology*, 45, 637-646. doi:10.1037/0022-006X.45.4.637
- \*Dormaar, J. M., Dijkman, C. I., & de Vries, M. W. (1989). Consensus in patient-therapist interactions: A measure of the therapeutic relationship related to outcome. *Psychotherapy and Psychosomatics*, 51, 69-76.
- Duan, C., & Hill, C. E. (1996). A critical review of empathy research. *Journal of Counseling Psychology*, 43, 261-274.
- \*Duan, C., & Kivlighan, D. M., Jr. (2002). Relationships among therapist presession mood, therapist empathy, and session evaluation. *Psychotherapy Research*, *12*, 23-37. doi:10.1093/ptr/12.1.23
- Egan, G. (1982). The skilled helper (2<sup>nd</sup> ed.). Monterey, CA: Brooks/Cole.
- Eisenberg, N., & Eggum, N.D. (2009). Empathic responding: Sympathy and personal distress.

  In J. Decety & W. Ickes (Eds.) (2009). *The Social Neuroscience of Empathy* (pp. 71-83).

  Cambridge, MA: MIT Press.
- Elkin, I., Falconnier, L., Smith, Y., Canada, K. E., Henderson, E., Brown, E. R., & McKay, B. M. (2014) Therapist responsiveness and patient engagement in therapy. *Psychotherapy Research*, 24, 52-66.

- Elliott, R. (2010). Psychotherapy Change Process Research: Realizing the Promise.

  \*Psychotherapy Research\*, 20, 123-135.
- Elliott, R., Bohart, A.C., Watson, J.C., & Greenberg, L.S. (2011). Empathy. In J. Norcross (ed.), *Psychotherapy relationships that work* (2nd ed.) (pp. 132-152). New York: Oxford University Press.
- Elliott, R., Watson, J., Goldman, R.. Greenberg, L.S. (2003). *Learning emotion-focused therapy: The process-experiential approach to change*. Washington, DC: APA.
- \*Filak, J., & Abeles, N. (1984). Posttherapy congruence on client symptoms and therapy outcome. *Professional Psychology: Research & Practice*, 15, 846-855.
- \*Free, N. K., Green, B.L., Grace, M.C., Chernus, L.A., & Whitman, R.M. (1985). Empathy and outcome in brief focal dynamic therapy. *American Journal of Psychiatry*, 142, 917-921. doi:10.1176/ajp.142.8.917
- \*Fretz, B. R. (1966). Postural movements in a counseling dyad. *Journal of Counseling Psychology*, 13, 335-343.
- \*Fuertes, J. N., & Brobst, K. (2002). Clients' ratings of counselor multicultural competency.

  \*Cultural Diversity & Ethnic Minority Psychology, 8, 214-223. doi:10.1037/1099-9809.8.3.214
- \*Fuertes, J.N., Mislowack, A., Brown, S., Gur-Arie, S., Wilkinson, S., Gelso, C.J. (2007).

  Correlates of the real relationship in psychotherapy: A study of dyads. *Psychotherapy Research*, 17, 423-430.
- \*Fuertes, J. N., Stracuzzi, T.I., Bennett, J., Scheinholtz, J., Mislowack, A., Hersh, M., Cheng, D. (2006). Therapist multicultural competency: A study of therapy dyads. *Psychotherapy: Theory, Research, Practice, Training, 43*, 480-490.

- \*Gabbard, C. E., Howard, G. S., & Dunfee, E. J. (1986). Reliability, sensitivity to measuring change, and construct validity of a measure of counselor adaptability. *Journal of Counseling Psychology*, *33*, 377-386.
- \*Garfield, S. L., & Bergin, A. E. (1971). Therapeutic conditions and outcome. *Journal of Abnormal Psychology*, 77, 108-114.
- Geller, S. M., Greenberg, L. S., & Watson, J. C. (2010). Therapist and client perceptions of therapeutic presence: the development of a measure. *Psychotherapy Resarch*, 20, 599-610.
- \*Gelso, C.J.; Latts, M.G., Gomez, M.J., Fassinger, R.E. (2002). Countertransference management and therapy outcome: An initial evaluation. *Journal of Clinical Psychology*, 58, 861-867.
- \*Gillispie, R., Williams, E., & Gillispie, C. (2005). Hospitalized African American Mental Health Consumers: Some Antecedents to Service Satisfaction and Intent to Comply With Aftercare. *American Journal of Orthopsychiatry*, 75, 254-261. doi:10.1037/0002-9432.75.2.254
- Gladstein, G., A., & Associates (1987). Empathy and counseling: Explorations in theory and research. New York: Springer-Verlag.
- \*Goldman, R., Greenberg, L., & Angus, L. (June, 2000). *The York II Psychotherapy Study on Experiential Therapy of Depression*. Paper presented at Society for Psychotherapy Research, Chicago, Illinois.
- \*Goodman, G., Edwards, K., & Chung, H. (2015). The relation between prototypical processes and psychological distress in psychodynamic therapy of five inpatients with borderline personality disorder. *Clinical Psychology & Psychotherapy*, 22, 83-95.

- doi:10.1002/cpp.1875
- Goubert, L., Craig, K.D., & Buysee, A. (2009). Perceiving others in pain: Experimental and clinical evidence of the role of empathy. In J. Decety & W. Ickes (Eds.) (2009). *The Social Neuroscience of Empathy* (pp. 153-165). Cambridge, MA: MIT Press.
- \*Greenberg, L.S., & Webster, M. (1982). Resolving decisional conflict by means of two-chair dialogue: Relating process to outcome. *Journal of Counseling Psychology*, 29, 468-477.
- \*Gross, W. F., & DeRidder, L. M. (1966). Significant movement in comparatively short-term counseling. *Journal of Counseling Psychology*, *13*, 98-99.
- Gurman, A.S. (1977). The patient's perception of the therapeutic relationship. In A.S.Gurman & A.M. Razin (Eds.), *Effective Psychotherapy: A handbook of research* (pp. 503-543). New York: Pergamon.
- \*Guydish, J., Campbell, B.K., Manuel, J.K., Delucchi, K.L., Le, Thao, Peavy, K. M., & McCarty, D. (2014). Does treatment fidelity predict client outcomes in 12-Step Facilitation for stimulant abuse? *Drug & Alcohol Dependence*, *134*, 330-336. doi:10.1016/j.drugalcdep.2013.10.020
- \*Hall, J. A., & Davis, M. H. (2000). Dispositional empathy in scientist and practitioner psychologists: Group differences and relationship to self-reported professional effectiveness. *Psychotherapy*, *37*, 45-56
- \*Hamilton, J. C. (2000). Construct validity of the core conditions and factor structure of the Client Evaluation of Counselor Scale. *The Person-Centered Journal*, 7, 40-51.
- \*Hansen, J. C., Moore, G. D., & Carkhuff, R. R. (1968). The differential relationships of objective and client perceptions of counseling. *Journal of Clinical Psychology*, 24, 244-246.
- Haynes, S.N. & O'Brien, W.O. (2000). Principles of behavioral assessment: A functional

- approach to psychological assessment. New York: Plenum.
- Higgins, J.P.T., Thompson, S.G., Deeks, J.J., & Altman, D.G. (2003). Measuring inconsistency in meta-analyses, *British Journal of Medicine*, 327, 557–560.
- \*Hoffart, A., Versland, S., & Sexton, H. (2002). Self-understanding, empathy, guided discovery, and schema belief in schema-focused cognitive therapy of personality problems: A process-outcome study. *Cognitive Therapy and Research*, 26, 199-219.
- \*Horvath, A. O., & Greenberg, L. S. (1989). Development and validation of the working alliance inventory. *Journal of Counseling Psychology*, *36*, 223-233.
- Ickes, W. (Ed.). (1997). Empathic accuracy. New York: Guilford.
- Ickes, W. (2003). Everyday Mind Reading: Understanding What Other People Think and Feel.

  Amherst, NY: Prometheus Books
- Johnson, S.M., Bradley, B., Furrow, J., Lee, A., Palmer, G., Tilley, D.G., & Woolley, S.R. (2005). *Emotionally Focused Marital Therapy Workbook*. New York: Brunner Routledge.
- \*Kasarabada, N. D. Hser, Y., Boles, S.M., Huang, Y.C. (2002). Do patients' perceptions of their counselors influence outcomes of drug treatment? *Journal of Substance Abuse Treatment*, 23, 327-334. doi:10.1016/S0740-5472(02)00276-3
- Kennedy-Moore, E., & Watson, J. C. (1999). Expressing emotion: Myths, realities, and therapeutic strategies. New York: Guilford.
- \*Kiesler, D. J., Klein, M. H., Mathieu, P. L., & Schoeninger, D. (1967). Constructive personality change for therapy and control patients. In C. R. Rogers et al. (Eds.), *The therapeutic relationship and its impact* (pp. 251-294), Madison: University of Wisconsin Press. (Combined with Barrington, 1967, and Van Der Veen, 1967)

- \*Kim, B. S. K., Ng, G. F., & Ann, A. J. (2009). Client adherence to Asian cultural values, common factors in counseling, and session outcome with Asian American clients at a university counseling center. *Journal of Counseling & Development*, 87, 131-142. doi:10.1002/j.1556-6678.2009.tb00560.x
- \*Kolden, G. (1996) Effective processes in early sessions of dynamic psychotherapy. *Journal of Psychotherapy Practice & Research*, 5, 122-131
- \*Kurtz, R. R., & Grummon, D. L. (1972). Different approaches to the measurement of therapist empathy and their relationship to therapy outcomes. *Journal of Consulting and Clinical Psychology*, *39*, 106-115.
- \*Kwon, K. I., & Jo, S. Y. (2012). The relationship among counselor experience level, empathic accuracy, and counseling outcome in the early phase of counseling. *Asia Pacific Education Review*, *13*, 771-777. doi:10.1007/s12564-012-9235-8
- \*Lafferty, P., Beutler, L. E., & Crago, M. (1989). Differences between more and less effective psychotherapists: A study of select therapist variables. *Journal of Consulting and Clinical Psychology*, 57, 76-80.
- Lambert, M.J., DeJulio, S.J. & Stein, D.M. (1978). Therapist interpersonal skills: Process, outcome, methodological considerations, and recommendations for future research.

  \*Psychological Bulletin, 85, 467-489.
- \*Langhoff, C., Baer, T., Zubraegel, D., & Linden, M. (2008). Therapist-patient alliance, patient-therapist alliance, mutual therapeutic alliance, therapist-patient concordance, and outcome of CBT in GAD. *Journal of Cognitive Psychotherapy*, 22, 68-79.
- Leitner, L. M. (1995). Optimal therapeutic distance: A therapist's experience of personal construct psychotherapy. In R. A. Neimeyer & M. J. Mahoney (Eds.), *Constructivism in*

- psychotherapy (pp. 357370). Washington, DC: American Psychological Association.
- \*Lerner, B. (1972). Therapy in the ghetto. Baltimore: Johns Hopkins University Press.
- \*Lesser, W. M. (1961). The relationship between counseling progress and empathic understanding. *Journal of Counseling Psychology*, 8, 330-336.
- Lipsey, M.W., & Wilson, D.B. (2001). Practical meta-analysis. Sage: Thousand Oaks, CA.
- \*Lorr, M. (1965). Client perceptions of therapists: A study of therapeutic relation. *Journal of Consulting Psychology*, 29, 146-149.
- Mahrer, A. R. (1997). Empathy as therapist-client alignment. in A. C. Bohart & L. S. Greenberg (Eds.), *Empathy reconsidered: New directions in psychotherapy* (pp. 187-216). Washington, DC: American Psychological Association.
- \*Malin, A. J., & Pos, A. E. (2015). The impact of early empathy on alliance building, emotional processing, and outcome during experiential treatment of depression. *Psychotherapy Research*, 25, 445-459. doi:10.1080/10503307.2014.901572
- \*Marshall, W.L., Serran, G.A., Fernandez, Y.M., Mulloy, R., Mann, R.E., & Thornton, D. (2003). Therapist characteristics in the treatment of sexual offenders: Tentative data on their relationship with indices of behaviour change. *Journal of Sexual Aggression*, 9, 25-30.
- \*Marshall, W.L., Serran, G.A., Moulden, H., Mulloy, R., Fernandez, Y.M., Mann, R.E., & Thornton, D. (2002). Therapist features in sexual offender treatment: Their reliable identification and influence on behaviour change. *Clinical Psychology and Psychotherapy*, *9*, 395-405.
- Martin, D. G. (2000). *Counseling and therapy skills* (2<sup>nd</sup> ed.). Prospect Heights, Illinois: Waveland Press.

- \*Martin, P. J., & Sterne, A. L. (1976). Post-hospital adjustment as related to therapist's intherapy behavior. *Psychotherapy: Theory, Research and Practice, 13*, 267-273.

  MacFarlane, P., Anderson, T., & McClintock, A. S. (2016), Empathy from the client's perspective: A grounded theory analysis. *Psychotherapy Research, 27*, 227-238.
- \*Melnick, B., & Pierce, R. M. (1971). Client evaluation of therapist strength and positivenegative evaluation as related to client dynamics, objective ratings of competence and outcome. *Journal of Clinical Psychology*, 27, 408-410.
- \*Miller, W., Taylor, C., & West, J. (1980). Focused versus broad spectrum behavior therapy for problem drinkers. *Journal of Consulting and Clinical Psychology*, 48, 590-601.
- \*Mitchell, K. M., Truax, C. B., Bozarth, J. D., & Krauft, C. C. (1973, March). *Antecedents to psychotherapeutic outcome*. NIMH grant Report (12306). Arkansas Rehabilitation

  Research and Training Center, Arkansas Rehabilitation Services, Hot Springs, Arkansas.
- Mohr, J. J., & Woodhouse, S. S. (2000, June). Clients' visions of helpful and harmful psychotherapy: An approach to measuring individual differences in therapy priorities.

  Paper presented at the 31st Annual Meeting of the Society for Psychotherapy Research, Chicago, Illinois.
- \*Moyers, T. B., Houck, J., Rice, S. L., Longabaugh, R., & Miller, W. R. (2016). Therapist empathy, combined behavioral intervention, and alcohol outcomes in the COMBINE research project. *Journal of Consulting and Clinical Psychology*, 84, 221-229. doi:10.1037/ccp0000074
- \*Muller, J., & Abeles, N. (1971). Relationship of liking, empathy and therapists' experience to outcome in psychotherapy. *Journal of Counseling Psychology*, 18, 39-43.
- \*Murphy, D., & Cramer, D. (2014). Mutuality of Rogers's therapeutic conditions and treatment

- progress in the first three psychotherapy sessions. *Psychotherapy Research*, 24, 651-661. doi:10.1080/10503307.2013.874051
- Myers, S. (2000). Empathic listening: Reports on the experience of being heard. *Journal of Humanistic Psychology*, 40, 148-173.
- Orlinsky, D. E., Grawe, K., & Parks, B. K. (1994). Process and outcome in psychotherapy—noch einmal. In A. E. Bergin & S. L. Garfield (Eds.), *Handbook of psychotherapy and behavior change* (4<sup>th</sup> ed., pp. 270-378). New York: Wiley.
- \*Orlinsky, D. E., & Howard, K.I. (1967). The good therapy hour: Experiential correlates of patients' and therapists' evaluations of therapy sessions. *Archives of General Psychiatry*, 12, 621-632.
- Orlinsky, D.E., Rønnestad, M.H., & Willutzki, U. (2003). Process and Outcome in

  Psychotherapy. In M.J. Lambert (Ed.), *Bergin and Garfield's Handbook of Psychotherapy*and Behavior Change (5th ed) (pp. 307-389). New York: Wiley.
- \*Pantalon, M.V., Chawarski, M.C., Falcioni, J., Pakes, J., & Schottenfeld, R.S. (2004). Linking Process and Outcome in the Community Reinforcement Approach for Treating Cocaine Dependence: A Preliminary Report. *American Journal of Drug and Alcohol Abuse*, 30, 353-367.
- Parloff, M. B., Waskow, I. E., & Wolfe, B. E. (1978). Research on therapist variables in relation to process and outcome. In Garfield, S. L., & Bergin, A. E. (Eds.), *Handbook of psychotherapy and behavior change* (2<sup>nd</sup> ed., pp. 233-282). New York: Wiley.
- Patterson, C. H. (1984). Empathy, warmth, and genuineness: A review of reviews.

  \*Psychotherapy, 21, 431-438.
- \*Payne, A. Liebling-Kalifani, H., & Joseph, S. (2007). Client-centred group therapy for survivors

- of interpersonal trauma: A pilot investigation. *Counselling & Psychotherapy Research*, 7, 100-105.
- \*Peake, T. H. (1979). Therapist-patient agreement and outcome in group therapy. *Journal of Clinical Psychology*, 35U, 637-646.
- Pedersen, R. (2009). Empirical research on empathy in medicine—A critical review. *Patient Education & Counseling*, 76, 3, 307-322, doi.org/10.1016/j.pec.2009.06.012.
- \*Rabavilas, A. D., Boulougouris, J. C., & Perissaki, C. (1979). Therapist qualities related to outcome with exposure in vivo in neurotic patients. *Journal of Behaviour Therapy and Experimental Psychiatry*, 410, 293-294.
- \*Ritter, A., Bowden, S., Murray, T., Ross, P., Greeley, J., & Pead, J. (2002). The influence of the therapeutic relationship in treatment for alcohol dependency. *Drug & Alcohol Review*, 21, 261-268. doi:10.1080/0959523021000002723
- \*Roback, H. B., & Strassberg, D. S. (1975). Relationship between perceived therapist-offered conditions and therapeutic movement in group psychotherapy with hospitalized mental patients. *Small Group Behavior*, *6*, 345-352.
- Rogers, C. R. (1957). The necessary and sufficient conditions of therapeutic personality change. *Journal of Consulting Psychology*, 21, 95-103.
- Rogers, C. R. (1980). A way of being. Boston: Houghton Mifflin.
- Sachse, R. (1990a). Concrete interventions are crucial: The influence of the therapist's processing proposals on the client's intrapersonal exploration in client-centered therapy. In G. Lietaer, J. Rombauts, & R. Van Balen (Eds.), *Client-centered and experiential psychotherapy in the nineties* (pp. 295-308). Leuven, Belgium: Leuven University Press.
- Sachse, R. (1990b). The influence of therapist processing proposals on the explication process of

- the client. Person-Centered Review, 5, 321-344.
- \*Saltzman, C., Leutgert, M. J., Roth, C. H., Creaser, J., & Howard, L. (1976). Formation of a therapeutic relationship: Experiences during the initial phase of psychotherapy as predictors of treatment duration and outcome. *Journal of Consulting and Clinical Psychology*, 44, 546-555.
- \*Sanberk, I., & Akbaş, T. (2015). Psychological counseling processes of prospective psychological counsellors: An investigation of client-counsellor interactions. *Educational Science: Theory & Practice*, *15*, 859-878.
- \*Sapolsky, A. (1965). Relationship between patient-doctor compatibility, mutual perceptions, and outcome of treatment. *Journal of Abnormal Psychology*, 70, 70-76.
- \*Saunders, S. M. (2000). Examining the relationship between the therapeutic bond and the phases of treatment outcome. *Psychotherapy*, *37*, 206-218.
- Saunders, S. M., Howard, K. I., & Orlinsky, D. E. (1989). The Therapeutic Bond Scales:

  Psychometric characteristics and relationship to treatment effectiveness. *Psychological Assessment: A Journal of Consulting and Clinical Psychology*, 1, 323-330.
- Selman, R. I. (1980). The growth of interpersonal understanding. Orlando, FL: Academic Press.
- Shamay-Tsoory, S. (2009). Empathic processing: Its cognitive and affective dimensions and neuroanatomical basis. In J. Decety & W. Ickes (Eds.) (2009). *The Social Neuroscience of Empathy* (pp. 215-232). Cambridge, MA: MIT Press.
- Shlien, J. (1997). Empathy in psychotherapy: A vital mechanism? Yes. Therapist's conceit? All too often. In A. C. Bohart & L. S. Greenberg (Eds.), *Empathy reconsidered: New directions in psychotherapy* (pp. 63-80). Washington, DC: American Psychological Association.

- \*Spohr, S. A., Taxman, F. S., Rodriguez, M., & Walters, S. T. (2016). Motivational interviewing fidelity in a community corrections setting: Treatment initiation and subsequent drug use.

  \*Journal of Substance Abuse Treatment, 65, 20-25. doi:10.1016/j.jsat.2015.07.012
- \*Staples, F. R., Sloane, R. D., Whipple, K., Cristol, A. H., & Yorkston, N. (1976). Process and outcome in psychotherapy and behavior therapy. *Journal of Consulting and Clinical Psychology*, 44, 340-350.
- Strauss, C., Taylor, B. L., Gu, J., Kuyken, W., Baer, R., Jones, F., & Cavanagh, K. (2016). What is compassion and how can we measure it? A review of definitions and measures. *Clinical Psychology Review*, 47, 15-27.
- \*Strupp, H. H., Fox, R. E., & Lessler, K. (1969). *Patients view their psychotherapy*. Baltimore: Johns Hopkins Press.
- Tallman, K., Robinson, E., Kay, D., Harvey, S., & Bohart, A. (1994, August). *Experiential and non–experiential Rogerian therapy: An analogue study*. Paper presented at the American Psychological Association Convention, Los Angeles.
- \*Thrasher, A. D., Golin, C. E., Earp, J. A. L., Tien, H., Porter, C., & Howie, L. (2006).

  Motivational interviewing to support antiretroviral therapy adherence: The role of quality counseling. *Patient Education and Counseling*, 62, 64-71. doi:10.1016/j.pec.2005.06.003
- \*Truax, C.B. (1966). Therapist empathy, warmth, and genuineness and patient personality change in group psychotherapy: A comparison between interaction unit measures, time sample measures, and patient perception measures. *Journal of Clinical Psychology*, 22, 225-229.
- Truax, C.B., & Carkhuff, R.R. (1967). *Toward effective counseling and psychotherapy: Training and practice.* Chicago: Aldine.

- \*Truax, C.B., Carkhuff, R. R., & Kodman, F., Jr. (1965). Relationships between therapist-offered conditions and patient change in group psychotherapy. *Journal of Clinical Psychology*, 21, 327-329.
- Truax, C. B., & Mitchell, K. M. (1971). Research on certain therapist interpersonal skills in relation to process and outcome. In A. E. Bergin & S. L. Garfield (Eds.), *Handbook of psychotherapy and behavior change* (1st ed., pp. 299-344). New York: Wiley.
- \*Truax, C.B., Wargo, D. G., Frank, J. D. Imber, S. D., Battle, C. C., Hoehn-Saric, R., Nash, E. H., & Stone, A. R. (1966). Therapist empathy, genuineness and warmth and patient therapeutic outcome. *Journal of Consulting Psychology*, 30, 395-401.
- \*Truax, C. B., & Wittmer, J. (1971). The effects of therapist focus on patient anxiety source and the interaction with therapist level of accurate empathy. *Journal of Clinical Psychology*, 27, 297-299.
- \*Truax, C. B., Wittmer, J., & Wargo, D. G. (1971). Effects of the therapeutic conditions of accurate empathy, nonpossessive warmth, and genuineness on hospitalized mental patients during group therapy. *Journal of Clinical Psychology*, 27, 137-142.
- \*Van der Veen, F. (1967). Basic elements in the process of psychotherapy: A research study.

  \*Journal of Consulting Psychology, 31, 295-303. (Combined with Barrington, 1967, and Kiesler, Mathieu, Klein & Schoeninger, 1967)
- Wampold, B. E. (2015), How important are the common factors in psychotherapy? An update.

  World Psychiatry, 14, 270–277. doi:10.1002/wps.20238
- Watson, J. C. (2001). Re-visioning empathy. In D. Cain & J. Seeman (Eds.), *Humanistic* psychotherapies: Handbook of research and practice (pp. 445-471). Washington: APA.
- Watson, J.C., & Prosser, M. (2002). Development of an observer rated measure of therapist

- empathy. In J. C. Watson, R. Goldman, & M Warner (Eds.), *Client-centered and* experiential psychotherapy in the 21st century: Advances in theory, research and practice (pp.303-314). Ross on Wye: PCCS Books.
- \*Watson, J. C., Steckley, P. L., & McMullen, E. J. (2014). The role of empathy in promoting change. *Psychotherapy Research*, 24, 286-298. doi:10.1080/10503307.2013.802823
- Wilson, D. B. (2006). Meta-analysis macros for SAS, SPSS, and Stata. Available at: http://mason.gmu.edu/~dwilsonb/ma.html
- \*Wiprovnick, A. E., Kuerbis, A. N., & Morgenstern, J. (2015). The effects of therapeutic bond within a brief intervention for alcohol moderation for problem drinkers. *Psychology of Addictive Behaviors*, 29, 129-135. doi:10.1037/a0038489
- \*Woodin, E. M., Sotskova, A., & O'Leary, K.D. (2012). Do motivational interviewing behaviors predict reductions in partner aggression for men and women? *Behaviour Research & Therapy*, *50*, 79-84. doi:10.1016/j.brat.2011.11.001
- Wynn, R., & Wynn, M. (2006). Empathy as an interactionally achieved phenomenon in psychotherapy: Characteristics of some conversational resources. *Journal of Pragmatics*, *38*, 1385-1397.

Table 1

PRISMA Information for Empathy-Outcome Meta-analysis

| Stage                     | Studies   | Studies  | Notes                        |
|---------------------------|-----------|----------|------------------------------|
|                           | included  | excluded |                              |
| 1. Search Result:         | 2,222     |          | Date of search: 3 March      |
|                           |           |          | 2017                         |
| 2. Abstract screening     | 148       | 2,074    | Not empathy => outcome       |
| stage: Possible Empathy   |           |          | studies                      |
| => Outcome studies        |           |          |                              |
| 3. Screening for          | 133       | 15       | Including 14 from Elliott et |
| duplicates                |           |          | al., 2011                    |
| 4. Full text retrieval    | 99        | 34       | Unable to retrieve full text |
| 5. Full text review &     | 24 + 58 = | 75       | Failed exclusion criteria at |
| analysis, plus studies    | 82        |          | full text review or analysis |
| carried over from Elliott |           |          |                              |
| et al., 2011              |           |          |                              |

Table 2

Empathy-Outcome Correlations: Overall Summary Statistics

Effect Level (K = 290) Study level (K = 82)

|                       | M (95% CI)   | M (95% CI)   |
|-----------------------|--------------|--------------|
|                       |              |              |
|                       |              |              |
| Weighted Mean r       | .21* (.1824) | .28* (.2333) |
| Cochrane's Q          | 1039.2*      | 348.68*      |
| <i>f</i> <sup>2</sup> | 72.2%        | 76.8%        |
| Fail safe number      | 13           | 33           |
| y . 001               |              |              |

<sup>\*</sup> *p* < .001

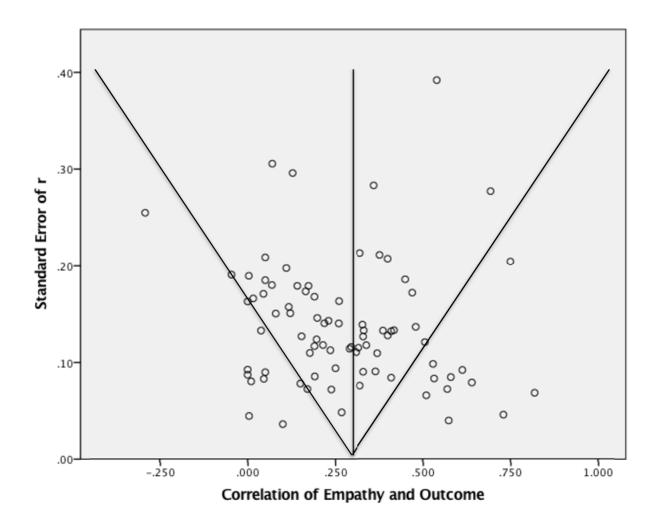
Note. 95% CI: 95% confidence interval.

Table 3

Causal Inference Conditions for Process-Outcome Correlational Research

| <b>Causal Inference Conditions</b>               | <b>Conclusions of the Present Meta-Analysis</b> |
|--|---|
| (1) Precedence: The hypothesized causal          | Mixed: Not satisfied in all studies, but        |
| variable must reliably precede the effect        | overall statistically significant (although     |
| variable.  | smaller) effects are found when the             |
|  | precedence condition was satisfied.             |
| (2) Plausibility: There must be a plausible      | Yes: Well supported by current theory and       |
| explanation for the proposed causal relation.    | emerging qualitative research.                  |
| (3) Statistical Conclusion Validity: There must  | Yes: Well-supported by our data.                |
| be reliable covariation between supposed cause   |   |
| and effect variables.                            |   |
| (4) Internal Validity: Realistic alternative     | Unclear: There are not yet enough well-         |
| causes for the observed covariation must be      | designed causal modelling studies to address    |
| reasonably excluded, especially reverse and      | concerns about reverse and third variable       |
| third variable causation/selection bias.         | causation.                                      |
| (5) Construct validity: Reasonable alternative   | No: There is no evidence that therapist         |
| meanings of the cause and effect variables       | empathy uniquely predicts client positive       |
| must be ruled out (e.g., researcher allegiance). | outcomes.                                       |
| (6) External Validity: The generalizability or   | Yes: Demonstrated across a wide range of        |
| range of application to relevant real world      | real world contexts, including different        |
| settings beyond tightly controlled research      | theoretical orientations, settings, modalities, |
| settings must be demonstrated.                   | and client presenting problems.                 |

Figure 1. Funnel Plot of Empathy- Outcome Effect by Standard Error of r



## Supplemental Table S1.

## Table of Studies, Sample Sizes and Effects

|   |      | Meta-    |         |         |      |
|---|------|----------|---------|---------|------|
|   |      | analysis | N of    | N of    |      |
| Authors                                 | Year | Version  | Clients | Effects | r    |
| Barnicot, Wampold & Priebe <sup>a</sup> | 2014 | 3        | 157     | 2       | .010 |
| Barrett-Lennard                         | 1962 | 1        | 35      | 6       | .418 |
| Bergin & Jasper                         | 1969 | 1        | 24      | 1       | .050 |
| Beutler, Johnson, Neville & Workman     | 1972 | 1        | 31      | 1       | .190 |
| Brouzos, Vassilopoulos & Baourda        | 2015 | 3        | 40      | 4       | .000 |
| Brug et al.                             | 2007 | 3        | 142     | 6       | .046 |
| Buckley Karasu & Charles                | 1981 | 1        | 71      | 6       | .177 |
| Bugge, Hendel & Moen                    | 1985 | 1        | 274     | 1       | .574 |
| Bulllmann, Horlacher & Kieser [PCT]     | 2004 | 2        | 85      | 1       | .330 |
| Bulllmann, Horlacher & Kieser [CBT]     | 2004 | 2        | 86      | 1       | .410 |
| Cartwright & Lerner                     | 1965 | 1        | 28      | 2       | .173 |
| Clark & Culbert                         | 1965 | 1        | 10      | 1       | .360 |
| Cooley & Lajoy                          | 1980 | 1        | 54      | 10      | .316 |
| Cramer & Takens                         | 1992 | 2        | 37      | 6       | .328 |
| Dicken, Bryson & Kass                   | 1977 | 3        | 43      | 9       | .080 |
| Dormaar, Dijkman & de Vries             | 1989 | 1        | 135     | 3       | .000 |
| Duan & Kivlighan                        | 2002 | 3        | 57      | 2       | .290 |
|   |      |          |         |         |      |

| Filak & Abeles                   | 1984 | 1 | 50  | 2  | .339 |
|----------------------------------|------|---|-----|----|------|
| Free, Green, Grace, Chernus &    | 1985 | 3 | 57  | 9  | .038 |
| Whitman <sup>a</sup>             |      |   |     |    |      |
| Fretz                            | 1966 | 1 | 17  | 3  | .320 |
| Fuertes & Brobst                 | 2002 | 3 | 85  | 1  | .570 |
| Fuertes, Mislowack et al.        | 2006 | 2 | 51  | 2  | .529 |
| Fuertes, Stracuzzi et al.        | 2007 | 2 | 59  | 2  | .214 |
| Gabbard, Howard : & Dunfee       | 1986 | 1 | 42  | 12 | .218 |
| Garfield & Bergin                | 1971 | 1 | 38  | 10 | .016 |
| Gelso, Latts, Gomez, Fassinger & | 2002 | 2 | 63  | 2  | .235 |
| Gillispie, Williams & Gillispie  | 2005 | 3 | 121 | 2  | .050 |
| Goldman, Greenberg & Angus       | 2000 | 1 | 38  | 4  | .117 |
| Goodman, Edwards & Chung         | 2015 | 3 | 5   | 1  | .540 |
| Greenberg & Webster              | 1982 | 1 | 31  | 4  | 046  |
| Gross & DeRidder                 | 1966 | 1 | 8   | 1  | .750 |
| Guydish et al. <sup>a</sup>      | 2014 | 3 | 151 | 2  | .238 |
| Hall & Davis                     | 2000 | 1 | 162 | 2  | .170 |
| Hamilton                         | 2000 | 1 | 132 | 1  | .730 |
| Hansen, Moore & Carkhuff         | 1968 | 1 | 70  | 2  | .532 |
| Hoffart, Versland & Sexton       | 2002 | 2 | 35  | 6  | .045 |
| Horvath & Greenberg              | 1981 | 1 | 29  | 3  | .141 |
| Kasarabada, Hser, Boles, & Huang | 2002 | 3 | 511 | 1  | .004 |
|                                  |      |   |     |    |      |

| Kim, Ng & Ann                      | 2009 | 3 | 61  | 3  | .580 |
|------------------------------------|------|---|-----|----|------|
| Kolden                             | 1996 | 3 | 121 | 2  | .320 |
| Kurtz & Grummon                    | 1972 | 1 | 31  | 42 | .069 |
| Kwon & Jo                          | 2012 | 3 | 48  | 1  | .613 |
| Lafferty, Beutler & Crago          | 1989 | 1 | 60  | 1  | .640 |
| Langhoff, Baer, Zubraegel & Linden | 2008 | 2 | 55  | 4  | .295 |
| Lerner                             | 1972 | 1 | 30  | 4  | .165 |
| Lesser                             | 1961 | 1 | 22  | 2  | 292  |
| Lorr                               | 1965 | 1 | 320 | 3  | .267 |
| Malin & Pos <sup>a</sup>           | 2015 | 3 | 30  | 1  | .260 |
| Marshall, Serran, Fernandez et al. | 2002 | 2 | 39  | 2  | .400 |
| Marshall, Serran, Moulden et al.   | 2003 | 2 | 41  | 3  | .121 |
| Martin & Sterne                    | 1976 | 1 | 143 | 4  | .150 |
| Melnick & Pierce                   | 1971 | 1 | 18  | 1  | .450 |
| Miller, Taylor & West              | 1980 | 1 | 41  | 1  | .819 |
| Mitchell, Truax, Bozarth & Krauft  | 1973 | 1 | 120 | 1  | .000 |
| Moyers, Houck, Rice, Longabaugh &  | 2016 | 3 | 700 | 2  | .100 |
| Miller <sup>a</sup>                |      |   |     |    |      |
| Muller & Abeles                    | 1971 | 1 | 36  | 1  | .410 |
| Murphy & Cramer                    | 2014 | 3 | 62  | 2  | .190 |
| Orlinsky & Howard                  | 1967 | 1 | 37  | 4  | .386 |
|                                    |      |   |     |    |      |

| Pantalon, Chawarski, Falcioni, Pakes | 2004 | 2 | 16  | 2 | .400 |
|--------------------------------------|------|---|-----|---|------|
| & Schottenfeld                       |      |   |     |   |      |
|                                      |      |   |     |   |      |
| Payne, Liebling-Kalifani & Joseph    | 2007 | 2 | 6   | 3 | .693 |
| Peake                                | 1979 | 1 | 55  | 2 | .196 |
| Rabavilas, Boulougouris & Perissaki  | 1979 | 1 | 36  | 1 | .506 |
| Ritter et al.                        | 2002 | 3 | 88  | 3 | .250 |
| Roback & Strassberg                  | 1975 | 1 | 12  | 1 | .070 |
| Saltzman, Leutgert, Roth, Creaser &  | 1976 | 1 | 55  | 4 | .153 |
| Howard                               |      |   |     |   |      |
| Sandberk & Akbaş                     | 2015 | 3 | 20  | 2 | .470 |
| Sapolsky                             | 1965 | 1 | 16  | 1 | .377 |
| Saunders                             | 2000 | 1 | 114 | 5 | .191 |
| Spohr, Taxman, Rodriguez & Walters   | 2016 | 3 | 40  | 2 | .230 |
| Staples, Sloane, Whipple, Cristol &  | 1976 | 1 | 30  | 3 | .050 |
| Yorkston [Behavior Therapy]          |      |   |     |   |      |
| Staples, Sloane, Whipple, Cristol &  | 1976 | 1 | 30  | 3 | .003 |
| Yorkston [Psychodynamic Therapy]     |      |   |     |   |      |
| Strupp Fox & Lessler                 | 1969 | 1 | 44  | 1 | .330 |
| Thrasher et al.                      | 2006 | 3 | 30  | 1 | .480 |
| Truax                                | 1966 | 1 | 80  | 3 | .365 |
| Truax, Carkhuff & Kodman             | 1965 | 1 | 40  | 1 | .198 |
| Truax Wargo et al.                   | 1966 | 1 | 40  | 5 | .332 |
|                                      |      |   |     |   |      |

| Truax & Wittmer                                | 1971 | 1 | 40  | 5  | .259 |
|--|------|---|-----|----|------|
| Truax, Wittmer & Wargo                         | 1971 | 1 | 116 | 3  | .510 |
| Watson, Steckley & McMullen                    | 2014 | 3 | 55  | 7  | .370 |
| Wiprovnick, Kuerbis & Morgenstern <sup>a</sup> | 2015 | 3 | 59  | 1  | .310 |
| Wisconsin Project (Barrington, 1967;           | 1967 | 1 | 12  | 12 | .128 |
| Kiesler et al., 1967; Van der Veen,            |      |   |     |    |      |
| 1967)  |      |   |     |    |      |
| Woodin, Sotskova & O'Leary                     | 2012 | 3 | 25  | 2  | .110 |

<sup>&</sup>lt;sup>a</sup>Causal modelling study.