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EMPIRICAL PAPER

Pseudosecure vs. individuated-secure client attachment to therapist: Implications for therapy process and outcome[†]

BRENT MALLINCKRODT[1], MARY Z. ANDERSON[2], GAHEE CHOI[1], KENNETH N. LEVY[3], KATJA PETROWSKI[4], ERIC M. SAUER[2], ORYA TISHBY[5], & HADAS WISEMAN[6]

[1]*Department of Psychology, University of Tennessee, Knoxville, TN, 37996, USA;* [2]*Department of Counselor Education and Counseling Psychology, Western Michigan University, Kalamazoo, MI, USA;* [3]*Department of Psychology, Pennsylvania State University, State College, PA, USA;* [4]*Department of Psychotherapy & Psychosomatic Medicine, Dresden University of Technology, Dresden, Germany;* [5]*Department of Psychology, Faculty of Social Sciences, Hebrew University, Jerusalem, Israel &* [6]*Department of Counseling and Human Development, University of Haifa, Haifa, Israel*

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Abstract

Objective: We differentiated two hypothesized client subtypes: (a) *Pseudosecure* clients have high Client Attachment to Therapist Scale (CATS) Secure and high CATS Preoccupied scores, tend to idealize their therapist, and exhibit maladaptive dependency; (b) *Individuated-secure* clients combine high Secure with *low* Preoccupied scores and function more autonomously. Clients who, despite insecure attachment to others, "earn" individuated-secure attachment to their therapist benefit most from therapy. **Method:** We examined regression suppressor effects by reanalyzing raw data from four published studies. If pseudosecure attachment is present, when covariance between CATS Secure and Preoccupied scores is removed, residual Secure scores should be significantly better predictors of process/outcome indicators than raw Secure scores. **Results:** Suppressor effects were observed in eight of nine analyses. Two were statistically significant. Earned individuated-secure attachment predicted improvement in interpersonal relationship symptoms, but only for clients with Avoidant pre-therapy attachment patterns. Finally, significant meta-analytic effect size estimates were obtained for CATS subscales, Secure $r = .274$ (95% CI = .177, .366), Avoidant, $r = -.296$ (95% CI = −.392, −193), and Preoccupied, $r = -.192$ (95% CI = −.289, −.092). **Conclusions:** Clients with pre-therapy Avoidant attachment who nevertheless "earn" individuated-secure attachment to their therapist appear to benefit more from therapy.

Keywords: psychotherapy relationship; client attachment to therapist; pseudosecurity; borderline personality disorder; suppressor effects

Nearly 30 years have passed since Bowlby's (1988) seminal essay that described the psychotherapy relationships of adult clients as a type of attachment. Elaborating on this work, Mallinckrodt (2010) described how each of the five signature features of secure child–caregiver relationships identified by Mikulincer and Shaver (2007) are manifested in some, but not all psychotherapy relationships. For example, some clients (a) regard their therapist as stronger and wiser, (b) seek proximity through regular sessions and emotional engagement, (c) rely on their therapist as a safe haven in times of stress, (d) experience a sense of calming security with their therapist who serves as a secure base for exploration of troubling material and (e) experience anxiety during separations and in anticipation of termination.

A growing body of research suggests that adults in general (i.e., not only clients) who feel needy or threatened, and anticipate that their primary strategies for recruiting support from a secure attachment figure will be unsuccessful, tend to engage in one of two

[†]After the first author, all others contributed equally to this project.

Correspondence concerning this article should be addressed to Brent Mallinckrodt, University of Tennessee, 1404 Circle Dr., Rm. 305, Knoxville, TN, 37996. Email: bmallinc@utk.edu

secondary strategies that have relatively stable trait-like characteristics (Mikulincer & Shaver, 2007). Individuals with a *deactivating* secondary strategy attempt to function as independently as possible without support from others, and tend to minimize and downregulate each of the five key features of secure attachment. In contrast, individuals with a *hyperactivating* secondary strategy tend to intensify their bids for connection and magnify expression of each of the five key elements of secure attachment (Mikulincer & Shaver, 2007). Research suggests that clients have a significant tendency to engage in the same secondary strategy in the psychotherapy relationship that is their preference when difficulties arise in other close relationships (Chen & Mallinckrodt, 2002; Mallinckrodt & Chen, 2004; Mallinckrodt, Choi, & Daly, 2015; Mallinckrodt & Jeong, 2015).

Thus, clients with a deactivating strategy may resist emergence of all five critical secure attachment features by: (a) refusing to concede the therapist has anything valuable to offer, (b) rejecting emotional proximity through missing sessions and refusing to engage in meaningful self-disclosure, (c) acting "compulsively self-reliant" (Bowlby, 1980) in not allowing the therapist to function as either a safe haven or (d) secure base, and (e) denying any regret or anxiety as termination nears. In contrast, clients with a hyperactivating strategy tend to: (a) see their therapist as far wiser and stronger, (b) desire very close proximity through more frequent sessions or bids for quite personal therapist disclosure to match their own deep and early disclosure, (c) manifest dependency on the therapist that goes far beyond an appropriate "safe haven," (d) have impaired ability to self-regulate anxiety coupled with desperately seeing a secure base in the therapy relationship, but experiencing only fleeting security, and (e) experience a dread of termination and high anxiety when the therapist is unavailable (Mallinckrodt, 2010).

Based on these findings, clinical observations, and studies of clients with borderline personality features (Levy, Johnson, Clouthier, Scala, & Temes, 2015), we believe there is an important distinction between two types of clients who—based only on self-reports, both indicate they are securely attached to their therapist. If they do genuinely perceive a secure psychotherapy attachment, no strong tendencies toward a secondary strategy of hyperactivation or deactivation should emerge. Consequently, we distinguish *pseudosecure* clients from *individuated-secure* clients. Only the latter exhibit genuine, deeply rooted secure attachment to their therapist that lays the foundation for therapeutic change. Pseudosecurity involves significant hyperactivating tendencies, idealization of the therapist, and an emotionally intense, but superficial connection.

Levy et al. (2006) discussed the concept of pseudosecurity in the context of borderline personality disorder (BPD) and attachment narratives generated by means of the Adult Attachment Interview (AAI; Main, Kaplan, & Cassidy, 1985). They noted that a small number of patients with BPD features provided seemingly secure attachment narratives, specifically, descriptions that were emotionally contained and coherent, with clear supporting examples, and lacking in strong idealizations or derogations and/or preoccupied anger. However, these AAI attachment narratives were marked by multiple, unintegrated mental models of attachment figures, a lack of forgiveness and collaboration, and a lack of valuing of attachments shown by those with securely attached states of mind. Levy and Kelly (2008) noted that individuals with BPD features, despite relative narrative coherence suggesting secure attachment, often describe engaging in self-destructive behaviors in response to interpersonal interactions that belie both safe haven and secure base behaviors characteristic of genuinely secure attachment. For these reasons, Levy and Kelly hypothesized that these individuals may be better characterized as pseudosecure. Levy, Beeney, Wasserman, and Clarkin (2010) noted the difficulty in disentangling idealizations from genuinely positive alliance in clients with BPD features. Interestingly, BPD patients report alliances as strong as non-BPD patients on measures like the WAI (Levy et al., 2010; Spinhoven, Giesen-Bloo, Van Dyck, Kooiman, & Arntz, 2007). However, meta-analytic findings (Scala, Ellison, & Levy, 2014) suggest that the alliance–outcome relationship is much weaker for clients with BPD than other clients. One possible explanation for these findings is that clients with BPD features often vacillate widely between idealization and derogations of their therapist, within and across sessions (Levy et al., 2010).

In addition, we believe that pseudosecure attachment characterizes many clients with hyperactivating tendencies, although they do not manifest strong features of BPD. It may be possible to assess pseudosecure attachment with the Client Attachment to Therapist Scale (CATS; Mallinckrodt, Gantt, & Coble, 1995). The CATS consists of three subscales which we will refer to as CATS Secure, CATS Avoidant, and CATS Preoccupied to distinguish them from other measures with similar labels. Although the CATS was not specifically designed for this purpose, the 14 items of the CATS Secure subscale appear to tap four of the five key features of secure psychotherapy relationships: (a) the counselor is regarded as stronger and wiser ("I know my counselor will understand the things that bother me"), (b) clients seek proximity and emotional connection to their counselor ("I feel that somehow things will

work out OK for me when I am with my counselor"), (c) clients rely upon the therapeutic relationship to provide a safe haven ("My counselor is a comforting presence to me when I am upset"), and (d) a secure base for psychological exploration ("My counselor helps me look closely at the frightening or troubling things that have happened to me"). The fifth key feature, separation anxiety, is not reflected in CATS Secure items (Mallinckrodt, 2010).

Although the CATS subscales were derived empirically from an item pool generated by expert therapists long before Mikulincer and Shaver's (2007) formulation, items of the Avoidant and Preoccupied subscales appear to tap important aspects of the two secondary attachment strategies of deactivation and hyperactivation, respectively. For example, possible deactivation is captured by these items from the CATS Avoidant Subscale: "Talking over my problems with my counselor makes me feel ashamed or foolish," "My counselor wants to know more about me than I am comfortable talking about," "I suspect my counselor probably isn't honest with me" "I feel safe with my counselor" (reverse scored), "It's hard for me to trust my counselor." Possible hyperactivation may be reflected in these CATS Preoccupied items: "I wish my counselor could be with me on a daily basis," "I would like my counselor to feel closer to me," "I think about calling my counselor at home."

A recent meta-analysis reported that CATS subscales were significantly associated with client attachment and with working alliance (Mallinckrodt & Jeong, 2015). Consistent with Bowbly's concept of *secure base* for exploration, secure client attachment to therapist has been significantly associated with depth of client exploration in the middle stages of psychotherapy (Mallinckrodt et al., 2015; Mallinckrodt, Porter, & Kivlighan, 2005; Romano, Fitzpatrick, & Janzen, 2008). Thus, although for individuated-secure clients the therapist may provide a safe holding environment to explore troubling material, it is unlikely that pseudosecure clients derive the same benefit.

In practical clinical terms, we suggest that clients with pseudosecure and individuated-secure attachment to their therapist present some superficially similar features. Both types of clients initially appear to bond easily, self-disclose readily, regard their therapist in strongly positive terms, and place high value on the therapeutic relationship—all commensurate with high CATS Secure scores. However, we propose crucial differences. In contrast to clients with an individuated-secure attachment, pseudosecure attachment involves an intense dependency indicative of high CATS Preoccupied scores. This in turn results in lower likelihood of favorable therapeutic outcomes and less capacity to engage in difficult therapeutic work, for example, deep exploration of personal material. Clients with individuated-secure attachment are defined by lower CATS Preoccupied scores, and thus higher likelihood of therapeutic improvement and greater capacity for session exploration. Both types of clients are expected to exhibit elevated self-reported scores on the CATS Secure subscale. The crucial difference is that clients with a pseudosecure pattern are highly dependent on their therapist and therefore do not make as much progress in the therapeutic work – unlike those who are individuated-secure. We believe that the two types of clients can be distinguished by their scores on the CATS Preoccupied subscale. In line with our conjecture, some evidence suggests that CATS Secure scores are associated with client symptom improvement when analyzed separately from other CATS subscales (Sauer, Anderson, Gormley, Richmond, & Preacco, 2010), but not when all three CATS subscales are analyzed together (Wiseman & Tishby, 2014).

The concept of pseudosecurity is important in interpersonal approaches to psychotherapy (e.g., Teyber & McClure, 2011), which emphasize that forming a healthy, adaptive relationship with the therapist is the primary vehicle for client change. From this perspective some have argued that when the five elements of secure attachment are reliably evident in the therapy relationship, the work is near its conclusion (Mallinckrodt, 2010; Mallinckrodt et al., 2015). However, clients with an intense maladaptive attachment dependency develop only a pseudosecure attachment and thus divert this process. Clients who can overcome tendencies to recreate maladaptive relationships with their therapist, and instead forge an individuated-secure attachment have a greater likelihood of making therapeutic progress. A growing number of empirical studies suggest that increased client capacity for secure attachment (to others and to their therapist) parallels symptom improvement in psychotherapy (for a review, see Taylor, Rietzschel, Danquah, & Berry, 2015). Following from these perspectives, an additional goal of this study was to explore the concept of *earned secure attachment to therapist* (ESAT). We hypothesized that clients who enter therapy with considerable attachment insecurity in their outside relationships, but nevertheless establish ("earn") an individuated-secure attachment with their therapist are likely to experience greater therapeutic gains than those who never manage to establish this type of secure attachment in therapy.

The Current Study

We solicited archival data from all previously published studies we could identify that administered

the CATS and assessed pre/post measures of symptom change in bona fide clients, or alternatively, depth of session exploration in the middle or late stages of therapy. We reasoned that pseudosecure and individuated-secure clients should differ in depth of exploration as well as therapy outcome. Furthermore, adding a process measure created an important additional opportunity to test the validity of our key constructs. Thus, the primary purpose of this study was to explore the concepts of pseudosecure attachment to therapist, individuated-secure attachment, and ESAT over the course of therapy. We examined these three hypotheses:

(a) In predicting psychotherapy outcome measured as residual gain in pretest–posttest symptoms, CATS Preoccupied scores should act as a suppressor variable with respect to CATS Secure scores. Specifically, the variance in improvement accounted for by CATS Secure scores alone should significantly *increase* when CATS Preoccupied scores are included in a hierarchical multiple regression.
(b) Pseudosecure clients explore therapeutic material less deeply than individuated-secure clients. Thus, a similar suppressor effect should be observed when the outcome variable is session exploration.
(c) *Earned individuated-secure attachment to therapist* (ESAT) is defined as the difference between clients' pre-therapy levels of attachment insecurity (avoidance or anxiety), and the level of individuated-secure attachment they are able to establish with their therapist. This quantity, measured as a residual gain in attachment security with others at intake relative to secure attachment to therapist at termination will be significantly correlated with positive therapy outcomes.

The second purpose of this study was to examine the strength of association between dimensions of attachment to therapist and psychotherapy outcome. After all, the importance of pseudosecurity or any attachment-related construct hinges on the role it plays in influencing psychotherapy processes or outcomes. A second goal of this study was to shed light on this question. Although, the number of studies is small, we conducted a meta-analysis to explore how much variance in therapy outcome is accounted for by attachment to therapist, relative to other constructs such as working alliance.

Method

Sources of Data and Research Participants

Archival data were requested from the authors of the four previous studies we identified that used the CATS and measures of symptom change (Mallinckrodt et al., 2015; Petrowski, Pokorny, Nowacki, & Buchheim, 2013; Sauer et al., 2010; Wiseman & Tishby, 2014) and a fifth study of session quality (Mallinckrodt et al., 2005). The only other study identified in Mallinckrodt and Jeong's (2015) meta-analysis to assess outcome was Fuertes et al. (2007), which assessed client satisfaction but not symptom change, so data from this study were not requested. The CATS is not the only self-report measure of client attachment to their therapist (cf., Parish & Eagle, 2003), but it is the only one that has apparently been studied so far in connection with therapy outcome. (Note that observer-rated scales are also in development, Lilliengren et al., 2014). The five studies that provided data are summarized in Table 1. Details about procedures, therapists, and client selection are given in the original reports. We were somewhat more selective than some of the original authors in that we analyzed data only from clients who had completed at least five sessions at the time of posttest measurement, or "4–5" sessions when precise session data were not available. Clearly this is a somewhat arbitrary selection criterion, but we reasoned that in terms of outcome, process, and the psychotherapy relationship, clients who completed less than five sessions represent a different population than clients who persisted longer in treatment.

Studies of therapy in naturalistic settings must contend with client attrition and incomplete cooperation with data collection. We required CATS ratings and both intake and termination self-reports of symptoms, which further limited our selection of data. Thus, although Petrowski et al. (2013) collected data from 429 hospital inpatients who met with their individual therapist twice per week. Only 240 of these clients met our inclusion criteria of complete CATS and pre/post symptom self-reports, plus at least 21 days in treatment (to ensure at least five sessions). Sauer et al. (2010) reported 50 of their clients provided termination symptom ratings, but we analyzed data only from 44 who also provided complete CATS scores, intake symptom self-reports, and had been seen for five or more sessions. Wiseman and Tishby (2014) collected data from a total of 67 clients, with repeated measures at intake, sessions 5, 15, 28, and 32. Depending on the particular time point, 44–50 clients met our inclusion criteria from this study. Sample sizes used in the current study are given in Table 1.

Table 1. Characteristics of component studies providing archival data.

Study	*N*	Setting, clients, treatment, and therapists	Treatment length and approach	Patient/client measures and schedule of data collection
Mallinckrodt et al. (2005)	37	US university counseling center clients, 67% women, 89% White; age, M = 27.39, SD = 9.76; seen by practicum students, interns, and senior staff	5–8 weekly sessions. "a wide range of theoretical orientations"	ECR, CATS, WAI, and SEQ collected in one survey after 5th session
Mallinckrodt et al. (2015)	47 or 34	US university counseling center clients, 66% female, 85% White; age, M = 25.91, SD = 7.99; seen by 25 practicum students, interns and senior staff	Weekly sessions, strong but not exclusive emphasis on interpersonal approaches	ECR at intake; WAI, CATS, OQ-45 after 5th session and at termination (session 6 to "12 or more")
Petrowski et al. (2013)	240 of 429	German hospital inpatients; 75% female, (ethnic identification not reported); age, M = 36.1, SD = 12.40; seen by 22 licensed therapists with doctoral or medical training, 2–33 years' experience (M = 8.5 yrs.); 41% psychodynamic, 46% CBT, 14% systemic/family therapy	Daily group sessions and twice weekly. individual sessions. All patients seen > 3 weeks, (M = 68 days)	AAI assessments for therapists; SCL-90-R/GSI at intake and termination, CATS at termination
Sauer et al. (2010)	44 of 97 clients	Two US university training clinics, 68% women, 84% White; age, M = 27.71, SD = 11.39; clients from community and university; seen by masters and doctoral level trainees	Only clients who were seen for > 5 sessions were included (M = 7 sessions). Approach not specified	OQ-45 at intake; ECR, WAI, CATS, OQ-45 after third session; OQ-45 at termination
Wiseman and Tishby (2014)	44–50 of 67	Israeli university counseling center clients; 69% female (ethnic identification not reported); age, M = 24.89, SD not reported; seen by 27 therapists, 96% masters level, 63% interns and 18% licensed, 5–15 years of experience	Weekly sessions. Psychodynamic therapy	ECR at session 28; CATS and WAI at session 5, 15, and 28; OQ-45 at intake, and sessions 5, 15, 28, and 32

Measures

Attachment to therapist. The CATS (Mallinckrodt et al., 1995) was developed to assess the psychotherapy relationship from the perspective of attachment theory. Factor analysis identified 36 items assigned to three subscales. The CATS Secure subscale (14 items) includes items that assess clients' feeling encouraged to explore frightening or troubling material in therapy and perceptions of the therapist as a responsive, sensitive, emotionally available, and comforting presence. The CATS Avoidant subscale (12 items) assesses suspicion that the therapist is disapproving and likely to be rejecting if displeased, reluctance to make personal disclosures, and feeling threatened or humiliated in the sessions. The CATS Preoccupied subscale (10 items) assesses longing for more contact and to be "at one" with the therapist, wishing to expand the relationship beyond the bounds of therapy, and having a preoccupation with the therapist and the therapist's other clients. Clients respond using a 6-point Likert-type scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). In the studies providing archival data, internal consistency (coefficient alpha) ranged from .73 to .94 for CATS Secure, .73 to .91 for CATS Avoidant, and from .73 to .89 for CATS Preoccupied—with the exception of Wiseman and Tishby (2014), who reported α = .68 for CATS Preoccupied.

Adult attachment. The Experiences in Close Relationships (ECR; Brennan, Clark, & Shaver, 1998) Scale contains two subscales of 18 items each. The Anxiety subscale taps fears of being abandoned by one's partner, whereas the Avoidance subscale taps fears of intimacy and emotional closeness. Respondents are instructed to complete the ECR in terms of their opinions about romantic relationships in general, not how a particular relationship is experienced at the moment. The ECR uses a 7-point Likert-type response scale ranging from 1 (*disagree strongly*) to 7 (*agree strongly*). Brennan et al. (1998) reported internal reliability (coefficient alpha) of .91 and .94, respectively, for the Anxiety and Avoidance subscales. Brennan, Shaver, and Clark (2000) reported retest reliabilities (3-week interval) of .70 for both subscales in a sample of college students. Evidence of validity was provided by significant correlations in samples of undergraduates with other measures of adult attachment and preferences about sexual behavior and touch (Brennan et al.,

1998), as well as interpersonal problems (Mallinckrodt & Wei, 2005). Internal reliability (coefficient alpha) for the archival data used in this study was .94 and .97 for the Anxiety and the Avoidance subscales, respectively.

Session exploration. The Session Evaluation Questionnaire (SEQ, Stiles & Snow, 1984a, 1984b) consists of four bipolar adjective scales in a 7-point semantic differential format. The SEQ measures clients' perceptions of a given psychotherapy session. Only 19 of the 24 items are scored to form the subscales of Depth (five items), Smoothness (five items), Positivity (five items), and Arousal (four items). Although all the items were administered, only the Depth and Smoothness data were used in our analyses. Following the procedures used by Mallinckrodt et al. (2005) we converted Depth and Smoothness data into standardized scores and added these to form a composite index of session exploration. Higher scores indicate clients' reports of deeper and more smooth sessions. For the data used in this study, internal consistency (coefficient alpha) were .82 and .85, for the Depth and Smoothness subscales, respectively.

Therapy outcome. Petrowski et al. (2013) administered the German language version of the widely used Symptom Check List 90-R (Franke, 1995), and calculated the global severity index from these 90 items recorded at intake and termination. Internal consistency reliability (coefficient alpha) was .98. Wiseman and Tishby (2014) used the Hebrew language adaptation (Gross et al., 2015) of the Outcome Questionnaire-45 (OQ-45; Lambert et al., 1996) as a measure of therapy outcome in their study. Internal consistency reliability (coefficient alpha) was .91. The English language OQ-45.2 (Lambert, 2004) was used by Mallinckrodt et al. (2015) and by Sauer et al. (2010) to track client symptom change in their studies. The OQ-45.2 is a brief self-report instrument sensitive to changes in psychological distress over short periods of time. Items address commonly occurring problems across a wide variety of disorders and are arranged in three subscales measuring: (a) symptom distress, (b) interpersonal functioning, and (c) social role functioning. Clients use a 5-point response scale 0 (*never*), 1 (*rarely*), 2 (*sometimes*), 3 (*frequently*), and 4 (*almost always*). Higher values indicate more reported symptoms. Internal consistency reliability (coefficient alpha) for the total scale score ranged from .94 to .97 in the data used for this study.

Data Analyses

Given the relationship between CATS Secure and CATS Preoccupied scores that we hypothesize, quantitative support for the pseudosecure construct would involve suppressor effects in regression analyses. To review this concept, we borrow from Maassen and Bakker (2001), who adapted a description given by McNemar (1969). A predictor X and criterion Y share certain *common elements* (to use McNemar's term). Of course, X also typically contains many irrelevant elements for predicting Y, and thus the zero-order squared correlation between X_1 and Y (r^2_{y1}) will be < 1. Typically, in hierarchical multiple regression analyses when an additional predictor X_2 is added at a later step, the regression coefficient of a variable X_1 that has already been in the analyses is reduced in absolute value after the addition of X_2 (to the extent that a new predictor X_2 shares variance with both the criterion Y and the previous predictor X_1). Thus, typically $b_{y1.2} < b_{y1}$. However, one scenario in which a second predictor X_2 serves as a suppressor variable occurs when X_2 shares elements in common with X_1 that are irrelevant for predicting Y. Although X_2 may share no significant variance with Y, seemingly paradoxically, in hierarchical regression analyses when X_2 is added at a later step to join X_1, the regression coefficient for X_1 predicting Y *increases* in the subsequent step as a result of the addition of X_2, that is, $b_{y1.2} > b_{y1}$. Conceptually, the addition of X_2 "purifies" X_1 as a predictor by partialling out some of the irrelevant elements that X_1 does not share with Y. With both variables in the analysis, the regression weights in predicting Y ($b_{y1.2}$ and $b_{y2.1}$) are usually opposite in sign for the "classic"

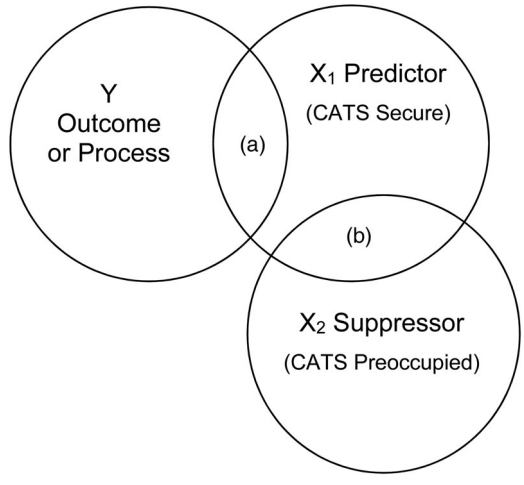

Figure 1. Suppressor effects model investigated in this study. Area (a) is shared variance between predictor and outcome, (b) is variance shared between suppressor and predictor that is irrelevant for predicting outcome.

suppressor scenario. Maassen and Bakker (2001) [AQ2] show that the classic case we describe here is only one of several types of suppressor scenarios. For our purposes, evidence of pseudosecure attachment would be observed for triads of variables shown in Figure 1, involving a therapy process or outcome variable Y, CATS Secure scores as the X_1 predictor, and CATS Preoccupied scores as the X_2 suppressor variable. In the final step of hierarchical regression, adding CATS Preoccupied as a predictor should "purify" CATS Secure and significantly increase its value as a predictor of outcome or positive therapy process by removing irrelevant variance—that is, the variance due to idealization and maladaptive dependency that are not part of a truly secure therapeutic attachment, but are captured by CATS Preoccupied scores. The CATS Secure residual score, after removing the area shown as (b) in Figure 1, has a higher proportion of variance shared (a) with outcomes than the total Secure score which includes the irrelevant variance (b).

Note that we did not include CATS Avoidance scores in these analyses because we had no theoretical basis to expect that Avoidance would act as a suppressor variable on Secure scores. Doing so would also have potentially masked and confounded the suppressor effects we did expect for Preoccupied scores. A rough indication of the strength of suppressor effect is the increment in R^2 associated with the final step of each analysis. However, ΔR^2 confounds suppressor effects of CATS Preoccupied (on CATS Secure) with actual variance shared between CATS Preoccupied and outcomes. Ludlow and Klein (2014) recommend that the statistical significance of a suppressor effect should be evaluated with the *Freedman–Schatzkin* (F–S) test for the difference between two regression coefficients (Freedman & Schatzkin, 1992). The F–S procedure has been evaluated in Monte Carlo studies as the best available test for the significance of a mediator variable, of the family of tests based on the difference between two regression coefficients (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). The test statistics is disturbed as t, with $df = n - 2$. Ludlow and Klein describe the test statistic as follows:

$$\frac{(\tau - \tau')}{\sqrt{\hat{\sigma}_{\tau}^2 + \hat{\sigma}_{\tau'}^2 - 2\hat{\sigma}_{\tau}\hat{\sigma}_{\tau'}\sqrt{1 - \hat{\rho}_{X_1X_2}^2}}}. \quad (1)$$

where $\tau = b_{y_1}$, $\tau' = b_{y_{1,2}}$, $\hat{\sigma}_{\tau}$ is the standard error of b_{y1}, $\hat{\sigma}_{\tau'}$ is the standard error of b_{y_1}, and $\hat{\rho}_{X_1X_2}$ is the correlation between the predictor X_1 and hypothesized suppressor X_2.

Results

The first purpose of this study was to explore the concept of pseudosecure attachment. Our first hypothesis predicted statistical suppressor effects when CATS Preoccupied scores were entered into hierarchical multiple regressions predicting therapy outcome from CATS Secure scores. Table 2 shows results of hierarchical multiple regression analyses for each of the four studies that provided archival outcome data for the present project. For each analysis, in Step 1 the pretest values of the criterion variable were entered. Thus, subsequent steps of these analyses represent a residual gain approach to symptom change. CATS Secure was entered alone in Step 2, with CATS Preoccupied entered at Step 3. Boxed pairs of values indicate that in six of the seven analyses there was a suppressor effect. Specifically, as can be seen in Table 2, the standardized regression β for CATS Secure increased from Step 2 to Step 3 with the addition of CATS Preoccupied scores. The second hypothesis also predicted statistical suppressor effects. However, in this case the criterion variable was session exploration. (Recall that this variable was constructed as a composite of standardized SEQ Depth and Smoothness scores.) Table 3 shows that there were suppressor effects in each of these two analyses. Table 4 reports the coefficients obtained from SPSS output needed to calculate the F–S test statistic, with t-values shown in the right column. Two of the seven analyses involving therapy outcome were significant, $p < .01$, but neither of the two analyses involving session exploration were significant. Thus, our first hypothesis received modest support, and the second was not supported.

The third hypothesis tested a prediction derived from interpersonal approaches to psychotherapy change involving ESAT, that is, individuated-secure attachment to therapist at conclusion of the work despite initial attachment insecurity with others. To test this hypothesis, we operationalized individuated-secure attachment as the standardized residual of termination CATS Secure scores after partialling out variance shared with CATS Preoccupied at termination. By also partialling out pre-therapy attachment insecurity (either avoidance or anxiety), the resulting residual gain score represents individuated-secure attachment at termination despite generalized attachment insecurity in relationships before therapy started. We then correlated ESAT scores with improvement in symptoms. Of the four studies that provided archival data, only Mallinckrodt et al. (2015) had assessed client pre-therapy attachment patterns and CATS at termination. We converted intake ECR Anxiety and Avoidance data into

Table 2. Analyses of the CATS preoccupied subscale as a suppressor variable for CATS secure in predicting symptom improvement.

Step/variable entered		Adj. R^2	ΔR^2	β	t	p	Zero order r	Partial r	Semi-partial r
Analysis 1a, $n = 39$: Predictors = mid-stage CATS, Criterion = OQ-45 symptom change[a]									
2.	CATS Secure	.62	.013	−.121	1.13	.266	−.386	−.185	−.113
3.	CATS Secure	.63	.018	−.148	1.37	.179	−.386	−.226	−.136
	CATS Preoc.			.138	1.34	.189	.266	.221	.133
Analysis 1b, $n = 41$: Predictors = termination CATS, Criterion = OQ-45 symptom change[a]									
2.	CATS Secure	.65	.038	−.196	2.01	.052	−.412	−.310	−.188
3.	CATS Secure	.65	.008	−.225	2.19	.035	−.412	−.339	−.205
	CATS Preoc.			.093	0.93	.360	.187	.151	.087
Analysis 2, $n = 240$: Predictors = termination CATS, Criterion = SCL-90 symptom change[b]									
2.	CATS Secure	.42	.053	−.234	4.68	.000	−.331	−.291	−.230
3.	CATS Secure	.45	.033	−.234	4.81	.000	−.331	−.299	−.231
	CATS Preoc.			.183	3.81	.000	.233	.241	.183
Analysis 3, $n = 44$: Predictors = mid-stage CATS, Criterion = OQ-45[c]									
2.	CATS Secure	.62	.015	−.128	1.32	.196	.089	−.201	−.123
3.	CATS Secure	.62	.003	−.137	1.38	.174	.089	−.214	−.131
	CATS Preoc.			.059	0.62	.538	.040	.098	.059
Analysis 4a, $n = 45$: Predictors = Week 5 CATS, Criterion = OQ-45 at week 28.[4]									
2.	CATS Secure	.50	.008	−.088	0.82	.415	−.120	−.126	−.088
3.	CATS Secure	.50	.012	−.107	0.98	.332	−.120	−.151	−.105
	CATS Preoc.			.113	1.12	.316	.246	.157	.109
Analysis 4b, $n = 50$: Predictors = Week 15 CATS, Criterion = OQ-45 at week 15[d]									
2.	CATS Secure	.17	.023	−.152	1.17	.248	−.136	−.168	−.152
3.	CATS Secure	.35	.181	−.333	2.65	.011	−.136	−.364	−.306
	CATS Preoc.			.463	3.68	.001	.356	.477	.425
Analysis 4c, $n = 46$: Predictors = Week 28 CATS, Criterion = OQ-45 at week 28[d]									
2.	CATS Secure	.38	.11	−.329	2.81	.007	−.363	−.394	−.329
3.	CATS Secure	.47	.09	−.358	3.27	.002	−.363	−.450	−.355
	CATS Preoc.			.312	2.78	.008	.387	.394	.302

Notes: In Step 1 of each analysis (not shown in this table) pretest scores of the criterion variable were entered. Thus, ΔR^2 for all steps after #1 represent a residual gain approach to symptom change.
Boxed values indicate evidence of suppressor effects for CATS Preoccupied.
[a]Mallinckrodt et al. (2015).
[b]Petrowski et al. (2013).
[c]Sauer et al. (2010).
[d]Wiseman and Tishby (2014).

standard scores. The difference between standardized pre-therapy ECR scores and termination individuated-secure standardized residuals served as our index of ESAT. There were actually two different scores, one derived from each of the pre-therapy self-reports of Anxiety and Avoidance. ESAT-Anxiety and ESAT-Avoidance scores were correlated with residual gain in symptom change. Results were in the expected direction but not statistically significant; for ESAT-Avoidance, $r_{.part} = -.31$, $p = .053$; for ESAT-Anxiety $r_{.part} = -.24$, $p = .131$. In a follow-up analysis, we reasoned that ESAT might have the

Table 3. Analyses of the CATS preoccupied subscale as a suppressor variable for CATS secure in predicting depth of session exploration.

Step/variable entered		Adj.R^2	ΔR^2	β	T	p	Zero order r	Partial r	Semi- partial r
Analysis 1, $n = 38$[a]									
1.	CATS Secure	.37	.38	.619	4.73	.000	.619	.619	.619
2.	CATS Sec	.38	.025	.631	4.84	.000	.619	.633	.629
	CATS Preoc.			.159	1.22	.230	.113	.202	.159
Analysis 2, $n = 47$[b]									
1.	CATS Secure	.54	.55	.743	7.45	.000	.743	.743	.743
2.	CATS Secure	.53	.001	.750	7.30	.000	.743	.740	.735
	CATS Preoc.			−.037	0.36	.720	.114	−.054	−.036

Note: Boxed values indicate evidence of suppressor effects for CATS Preoccupied.
Sources of archival data: [a]Mallinckrodt et al. (2005).
[b]Mallinckrodt et al. (2015).

Table 4. Statistical significance of CATS preoccupied as a suppressor effect on CATS secure in predicting therapy symptom reduction and session depth.

Study	*n*	CATS Assessment	Criterion	b_{y1}	SE(b_{y1})	$b_{y1.2}$	SE($b_{y1.2}$)	r_{X1X2}	t^a
Mallinckrodt et al. (2015)	39	5th session	Outcome	−4.650	4.118	−5.692	4.147	.207	1.21
Mallinckrodt et al. (2015)	41	Termination	Outcome	−6.806	3.390	−7.807	3.564	.224	1.25
Petrowski et al. (2013)	240	Termination	Outcome	−0.239	0.051	−0.239	0.050	−.014	.00
Sauer et al. (2010)	44	Termination	Outcome	−3.475	2.642	−3.727	2.693	.146	0.64
Wiseman and Tishby (2014)	45	5th week	28th week outcome	−2.592	3.148	−3.132	3.192	.153	1.11
Wiseman and Tishby (2014)	50	15th week	15th week outcome	−3.969	3.393	−8.693	3.276	.393	3.52**
Wiseman and Tishby (2014)	46	28th week	28th week outcome	−11.891	4.229	−12.909	3.950	.076	2.44**
Mallinckrodt et al. (2005)	38	5th session	Session exploration	1.915	0.405	1.951	0.403	−.074	1.20
Mallinckrodt et al. (2015)	47	5th session	Session exploration	1.867	0.251	1.886	0.258	.207	0.36

[a]*df* = *n*—2, one-tailed test, using Freedman and Schatzkin@ procedure described by Ludlow and Klein (2014).
**$p < .01$

strongest association with presenting symptoms rooted in interpersonal problems. The OQ-45 assigns 11 items to an Interpersonal Relationships (IR) subscale. We repeated the analyses described in this paragraph with the OQ-45 IR subscale score instead of the OQ-45 total score. The relationship was significant for ESAT-Avoidance, $r_{.part} = -.36$, $p = .021$; but not ESAT-Anxiety $r_{.part} = .04$, $p = .82$.

Finally, we used the archival data to conduct a meta-analysis on the association between CATS subscales and therapy outcome in the four studies that examined this relationship. Table 5 shows correlations for each of the CATS subscales with residual gain in symptom change (i.e., partial correlations). Although this sample is exceedingly small, we did calculate weighted mean product-moment correlation

Table 5. Studies and component effect sizes included in meta-analyses of CATS and therapy outcome.

			95% Confidence interval			
Study	*N*	*r*	Lower	Upper	*Z*	*P*
CATS Secure						
Mallinckrodt et al. (2015) mid	47	.355				
Mallinckrodt et al. (2015) term	34	.310				
Petrowski et al. (2013)	240	.291				
Sauer et al. (2010)	44	.201				
Wiseman and Tishby (2014) 5 weeks	46	.162				
Wiseman and Tishby (2014) 15 weeks	50	.195				
Wiseman and Tishby (2014) 28 weeks	46	.292				
Weighted Mean	–	.274	.177	.366	5.34	.000
CATS Avoidant						
Mallinckrodt et al. (2015) mid	47	−.217				
Mallinckrodt et al. (2015) term	34	−.276				
Petrowski et al. (2013)	240	−.360				
Sauer et al. (2010)	44	−.122				
Wiseman and Tishby (2014) 5 weeks	46	−.221				
Wiseman and Tishby (2014) 15 weeks	50	−.402				
Wiseman and Tishby (2014) 28 weeks	46	−.384				
Weighted mean	–	−.296	−.392	−.193	5.95	.000
CATS Preoccupied						
Mallinckrodt et al. (2015) mid	47	−.176				
Mallinckrodt et al. (2015) term	34	−.042				
Petrowski et al. (2013)	240	−.230				
Sauer et al. (2010)	44	−.064				
Wiseman and Tishby (2014) 5 weeks	46	−.120				
Wiseman and Tishby (2014) 15 weeks	50	−.341				
Wiseman and Tishby (2014) 28 weeks	46	−.163				
Weighted mean	–	−.192	−.289	−.092	3.72	.000

Notes : Effect sizes were coded so that positive associations indicate symptom improvement. Effects from the same study were averaged prior to analysis. N. of studies = 4. Estimates are based on a random effects model.

(*r*) as a meta-analytic index of effect size. Multiple effect sizes derived from the same sample, or overlapping samples, were aggregated by calculating the average effect size, weighted by sample size. Following the recommendations of Borenstein, Hedges, Higgins, and Rothstein (2009), reported correlation coefficients were transformed into Fisher's *Z* before aggregation, and then transformed back into *r*. A random effects model was adopted, as recommended for psychotherapy research (Diener, Hilsenroth, & Weinberger, 2009). Data were analyzed using the Comprehensive Meta-Analysis software Version 2.0 (Borenstein, Hedges, Higgins, & Rothstein, 2005). With outcome coded so that positive scores indicate improvement, significant meta-analytic effect size estimates were obtained for CATS Secure, $r = .274$ (95% CI = .177, .366), $p < .000$; CATS Avoidant, $r = -.296$ (95% CI = −.392, −193), $p < .000$, and CATS Preoccupied, $r = -.192$ (95% CI = −.289, −.092), $p < .000$.

Discussion

The main purpose of this study was to test three hypotheses derived from our assumptions about the proposed construct of pseudosecure attachment, in contrast to the more adaptive pattern we termed individuated-secure attachment to therapist. The first two hypotheses involved evidence of suppressor effects for CATS Preoccupied scores vis-à-vis CATS Secure scores in predicting therapy outcome (Hypothesis 1) or quality of session exploration (Hypothesis 2). Evidence of suppressor effects was obtained in eight of the nine analyses given in Tables 4 and 5. The index of effect size is not change in R^2 at the last step of the multiple regression, but instead the magnitude of increase in β for CATS Secure after CATS Preoccupied is entered in the regression model. The boxed coefficients in Table 3 show that the six suppressor effects ranged from a 7% to 119% increase in β. In the seventh analysis there was no change. The mean increase for all seven analyses was 28% (median 15%). The two suppression effects for session quality in Table 4 show increases of less than 1%. Thus. for therapy outcome the suppression effects were large in several cases. However, due to small samples, only two of these effect sizes were statistically significant. To sum up, statistical tests for the significance of these suppressor effects resulted in mixed support for Hypothesis 1 (concerning symptom reduction), and no support for Hypothesis 2 (regarding quality of session exploration).

The addition of CATS Preoccupied scores in the final step of the regression analysis improved the predictive usefulness of CATS Secure. It appears that CATS Secure and CATS Preoccupied do share variance that is irrelevant for predicting symptom improvement. By partialling this variance from CATS Secure scores, the residual is "purified" as a predictor (Maassen & Bakker, 2001). We believe the most likely explanation for these suppressor effects is that clients with high CATS Preoccupied scores (who idealize their therapist and tend to rate their psychotherapy relationship has having secure attachment features) lack some of the capacity for autonomous functioning necessary for therapeutic improvement.

Support for the construct of pseudosecure attachment is consistent with work integrating attachment and cognitive developmental theories that proposes a continuum of adaptive function within insecure attachment styles. The level of function is associated with personality styles or types of personality pathology (Blatt & Levy, 2003; Levy & Blatt, 1999). Specifically, Levy and Blatt proposed that preoccupied attachment runs along a relatedness continuum from relatively healthy individuals who function well despite some anxiety in relationships, to those with severe personality disorders such as BPD that interfere markedly with a capacity for adaptive attachment. In a related line of research, Blatt, Zohar, Quinlan, Zuroff, and Mongrain (1995) distinguished between healthy and unhealthy levels of dependency in depression. They identified two subscales within the Dependency factor of the Depressive Experience Questionnaire (Blatt, D'Afflitti, & Quinlan, 1976). The first was labeled *Anaclitic Neediness*, and contained items that expressed anxiety related to feelings of helplessness, fear of separation and rejection, loss of gratification, and frustration that were not linked to a particular relationship. The second subscale was labeled *Interpersonal Depression* and contained items that tap loneliness in response to disruptions of specific relationships, sadness in response to a loss and/or in relation to an actual person. The Anaclitic Neediness subscale had significantly greater correlations with independent measures of depression, whereas the Interpersonal Depression subscale had significantly higher correlations with measures of self-esteem (although still related to depression measures). Of particular significance for the current study, Levy (1999) found that preoccupied attachment was significantly correlated with Anaclitic Neediness but not Interpersonal Depression. In more recent research, depression in BPD was significantly related to Anaclitic Neediness characterized by increased feelings of helplessness, fears and apprehensions concerning separateness and rejection, and intense concerns about loss of gratification and experiences of frustration but not Interpersonal Depression (Levy, Edell, & McGlashan, 2007).

It is important to note that some of the 14 CATS Secure items tap perceptions of the therapist as being reliable and responsive to a client's needs, for example, "My counselor is dependable," or "I feel sure that my counselor will be there if I really need her/him." To the extent that a therapist cannot meet the potentially insatiable needs of a client with intense hyperactivating tendencies, scores on these CATS Secure subscale items will not be elevated. The CATS Preoccupied scale contains items that may tap aspects of BPD ("I wish my counselor were not my counselor so that we could be friends," "I yearn to be 'as one' with my counselor"), which in turn have been linked to impairment in attachment organization and intense ambivalence toward the therapist (Levy, 2005).

Turning now to the third and final hypothesis, we believe that clients who enter therapy with a strong tendency toward insecure attachment in outside relationships, but who nevertheless are able to achieve a secure attachment to their therapist, deserve special research attention. (Therapists in these dyads deserve special attention too, of course, but we did not have the archival data to explore this area.) We note that the concept of pseudosecure versus individuated-secure attachment prompts a caution in these studies: When the "earned" secure attachment is based on client self-reports, the data must be screened carefully for the possibility that idealization and dependency might lead to inflated client evaluations of secure attachment to therapist. For this reason we believe CATS Secure residual scores, with CATS Preoccupied scores partialled out, provide the best index of individuated-secure attachment—which may have been hard-won by the client. The third hypothesis could only be tested in a study that assessed client generalized attachment before therapy, CATS at termination, and pre/post symptom change. In the one dataset that met these criteria (Mallinckrodt et al., 2015) we obtained some evidence suggesting that positive differences between individuated-secure attachment to therapist at termination and initial client Avoidance (but not Anxiety), were significantly associated with reductions in clients' self-reported interpersonal problems. We termed clients' gains, ESAT. It appears that only ESAT with respect to initial attachment Avoidance is related to therapeutic improvement, but not ESAT with respect to initial attachment Anxiety. Note that the Levy, Ellison, Scott, and Bernecker (2011) meta-analysis reported that pre-therapy Anxiety, but not Avoidance, was significantly related to positive therapy outcome. Perhaps the therapeutic gains that clients with high initial attachment anxiety are able to make do not depend as closely on establishing a secure attachment to therapist, as the gains that clients with high initial attachment avoidance are able to make. In other words, ESAT appears to be more important to the eventual success of therapy for clients with high attachment avoidance than for those with high attachment anxiety. This would be congruent with pilot research conducted with the same dyads used in this study, suggesting that the corrective emotional experience for those with deactivating tendencies is one of growing engagement with their therapist (Mallinckrodt et al., 2015).

Taken together findings of this study are consistent with the notion that differences in clients' patterns of attachment to others have important consequences for the psychotherapy relationship. Research suggests that adults who have experienced family disruption/dysfunction that differs greatly in basic circumstances (e.g., parents with serious substance addictions vs. no reported addiction) but shares the common experience of having parents who were emotionally unavailable, develop similar deficits in object relations, attachment security, and alexithymia (Hadley, Holloway, & Mallinckrodt, 1993; King & Mallinckrodt, 2000). Although only some of the suppressor effects identified in this study were statistically significant, these findings suggest that the distinctions between pseudosecure and individuated-secure attachment may be important for therapists to consider.

The final goal of this study was to conduct meta-analyses of associations between attachment to therapist and psychotherapy outcome. To place these findings in the context of four other recent meta-analyses, we created Figure 2. These meta-analyses can be organized as associations between pairs of four critical constructs: (a) client general "styles" of adult attachment, (b) client attachment to therapist, (c) the psychotherapy working alliance, and (d) psychotherapy outcome. Of the six possible links between pairs of these four key constructs in Figure 2, the c–d associations between working alliance and outcome have been well documented in previous meta-analyses. For example, Horvath, Del Re, Fluckiger, and Symonds (2011) reported an effect size for the association between working alliance and outcome of $r = .275$ (95% CI = .25, .30).

Each of the five remaining links in Figure 2 involve one or more attachment-related constructs. Regarding the a–b link, Mallinckrodt and Jeong (2015) reported a meta-analysis of nine studies suggesting significant negative associations between client pre-therapy attachment avoidance and CATS Secure, $r = -12$, (95% CI = −.19, −.05) and between pre-therapy attachment anxiety and CATS Secure, $r = -13$, (95% CI = −.22, −.03). Regarding the a–c link, Diener and Monroe (2011)[AQ3] reported a weighted mean effect size across 17 samples of $r = .17$ (95% CI = .10, .23) for positive associations of client attachment security (or negative associations

of insecurity) with stronger therapeutic alliance. Similarly, in a meta-analysis that included 12 unpublished dissertations as well as 12 published articles, Bernecker, Levy, and Ellison (2014) reported a mean weighted *r* of −.137 (95% CI = −.169, −.105) between adult attachment avoidance and working alliance, and *r* = −.121 (95% CI = −.153, −.089) for attachment anxiety and alliance. Regarding link a–d in Figure 2, in a meta-analysis of 14 studies Levy et al. (2011), reported a mean weighted *r* for attachment anxiety and psychotherapy outcome of −.224 (80% credibility interval = −.291, −158), whereas for avoidance and outcome, *r* = −.014 (80% credibility interval = −165, 136). (For a explanation of the difference between credibility intervals and confidence intervals, see Whitener, 1990). Finally, Mallinckrodt and Jeong (2015) investigated the b–c link between attachment to therapist and working alliance. The association was significant and quite strong, *r* = .76, (95% CI = .69, .82).

This project used archival data to fill the gap illustrated with the dashed line in Figure 2 by providing estimates of the links (b–d) between client attachment to therapist and therapy outcome. The seven effect sizes given in Table 5 were combined to provide four independent estimates for each CATS subscale. Of course, this is a very small research base for meta-analysis, so the estimates must be considered as very tentative. Clearly further research is needed to provide more stable estimates of the association between client attachment to therapist and outcome or process variables of interest. Nevertheless, estimated weighted mean effect sizes for each CATS subscale were significant. Interestingly, the estimate for CATS Secure *r* = .274 was nearly identical in magnitude to the estimate reported by Horvath et al. (2011) of *r* = .275 for working alliance and outcome.

Limitations

None of the studies that provided archival data were planned from the beginning as investigations of the constructs we explored in the secondary analyses we conducted. A strength is the international diversity of settings, clients, length of treatment, and experience level of therapists represented by the studies that provided archival data. However, a limitation is that so many differences across studies make it impossible to attribute a specific reason for differences in findings. For example, Petrowski et al. (2013) was the only study of hospital inpatients. There was much more frequent weekly contact with therapists than in any of the other four studies. This was also the only study to use the SCL-90-R rather than the OQ-45 as a measure of symptoms, and it was only in this dataset that suppressor effects were not found. All of the data were client self-report. A part of the central assumptions about pseudosecure attachment is that client self-reports of relationship quality may be biased by their dependency needs. Thus, it would be very helpful to have therapist assessments of the relationship as well. Both within a given study and across studies the therapists varied greatly in experience and training, some were beginning students in their first practicum while others had many years of professional experience. We were not able to conduct analyses of the client data nested within therapists, but a multilevel analysis of therapist effects could make a very important future contribution to the literature. Perhaps experienced therapists are better able to manage clients with pseudosecure tendencies, or a therapists' own particular attachment tendencies might exacerbate the effect. ESAT may be much more likely in dyads with an experienced therapist who has sufficient time to overcome the challenges posed by clients with considerable pre-therapy attachment insecurity.

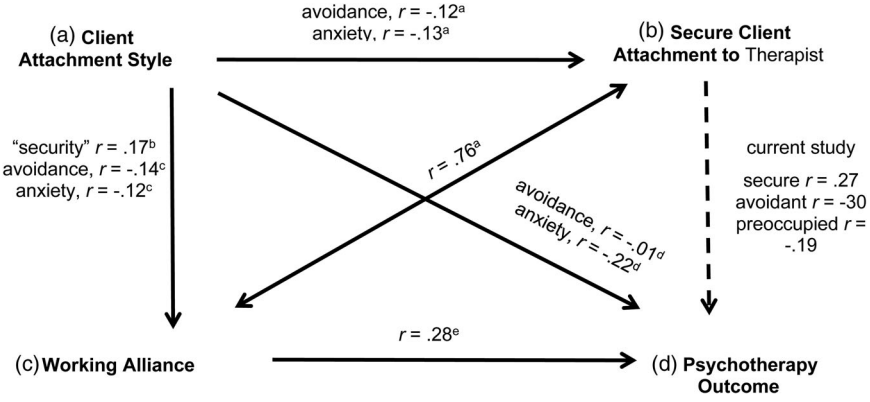

Figure 2. Results of meta-analyses comparing key attachment and psychotherapy constructs. Coefficients are sample-weighted mean *r*, rounded to two decimal places. [a]Mallinckrodt and Jeong (2015), [b]Diener and Monroe (2011), [c]Bernecker et al. (2014), [d]Levy et al. (2011), and [e]Horvath et al. (2011).

Considering differences in the time course of patient improvement points to a further limitation, namely when are the best intervals to assess client outcomes? Any choice a researcher might make is necessarily somewhat arbitrary. The archival data we analyzed included a wide range of assessment points. Finally, the studies that provided data all were conducted in naturalistic settings, which offer the advantages of ecological validity but the limitations of client attrition, missing data, and incomplete cooperation with the schedule of data collection.

Conclusions and Future Directions

Findings of this study suggest that CATS Preoccupied scores act as a regression suppressor variable for CATS Secure scores in predicting therapy outcome. The strength of effect varied widely across studies, so at a basic level the next research steps should identify the conditions most likely to lead to these suppressor effects, including what types of treatment settings, length of therapy, type of client, and characteristics of therapist are most likely to produce these effects in client self-reports. Studies with a large sample, pretherapy assessment of client attachment, and repeated measures of psychotherapy attachment, working alliance, and symptoms through termination are needed. It would be very beneficial to have therapists perspectives on the psychotherapy relationship as well. One index of individuated—versus pseudosecure attachment may be greater therapist-client congruence in ratings of secure attachment. Of course, there are a host of reasons for the suppressor effect other than pseudosecure attachment to therapist that need to be ruled out. Process research and in-depth qualitative study of client experiences of the psychotherapy relationship are needed to explore this question. Finally, we hope the research community will focus more attention on the processes whereby clients with a history of insecure attachment before therapy are able to establish a genuinely secure attachment to their therapist. It would be very helpful to know more about the characteristics and capacities of clients and therapists that bring about this extraordinary achievement.

References

Bernecker, S. L., Levy, K. N., & Ellison, W. D. (2014). A meta-analysis of the relation between patient adult attachment style and the working alliance. *Psychotherapy Research*, *24*, 12–24. doi:10.1080/10503307.2013.809561

Blatt, S. J., D'Afflitti, J. P., & Quinlan D. M. (1976). Experiences of depression in normal young adults. *Journal of Abnormal Psychology*, *85*, 383–389. doi:10.1037/0021-843X.85.4.383

Blatt, S. J., & Levy, K. N. (2003). Attachment theory, psychoanalysis, personality development, and psychopathology. *Psychoanalytic Inquiry*, *23*, 102–150. doi:10.1080/07351692309349028

Blatt, S. J., Zohar, A. H., Quinlan, D. M., Zuroff, D. C., & Mongrain, M. (1995). Subscales within the dependency factor of the depressive experiences questionnaire. *Journal of Personality Assessment*, *64*, 319–339. doi:10.1207/s15327752jpa6402_11

Borenstein, M., Hedges, L. V., Higgins, J. P. T., & Rothstein, H. R. (2005). *Comprehensive meta-analysis* (Ver. 2) [Software]. Retrieved from http://www.meta-analysis.com/pages/downloads/Meta-Analysis-Manual.pdf

Borenstein, M., Hedges, L. V., Higgins, J. P. T., & Rothstein, H. R. (2009). *Introduction to meta-analysis*. Chichester: Wiley.

Bowlby, J. (1980). Loss: sadness and depression. In *Attachment and loss* (Vol. 3). New York, NY: Basic Books.

Bowlby, J. (1988). *A secure base: Parent–child attachment and healthy human development*. New York, NY: Basic Books.

Brennan, K. A., Clark, C. L., & Shaver, P. R. (1998). Self-report measurement of adult attachment: An integrative overview. In J. A. Simpson & W. S. Rholes (Eds.), *Attachment theory and close relationships* (pp. 46–76). New York, NY: Guilford Press.

Brennan, K. A., Shaver, P. R., & Clark, C. L. (2000). *Specifying some mediators of attachment-related anxiety and avoidance* (Unpublished manuscript). State University of New York, Brockport.

Chen, E. C., & Mallinckrodt, B. (2002). Attachment, group attraction, and self-other agreement in interpersonal circumplex problems and perceptions of group members. *Group Dynamics*, *6*, 311–324. doi:10.1037/1089-2699.6.4.311

Diener, M. J., Hilsenroth, M. J., & Weinberger, J. (2009). A primer on meta-analysis of correlation coefficients: The relationship between patient-reported therapeutic alliance and adult attachment style as an illustration. *Psychotherapy Research*, *19*, 519–526. doi:10.1080/10503300802491410

Diener, M. J., & Monroe, J. M. (2011). The relationship between adult attachment style and therapeutic alliance in individual psychotherapy: A meta-analytic review. *Psychotherapy*, *48*, 237–248. doi:10.1037/a0022425

Franke, G. (1995). SCL-90-R. Die Symptom Checkliste von Derogatis. [SCL-90-R. The Symptom-Checklist by Derogatis]. *Z Klin Psychol*, *26*, 77–79.

Freedman, L. S., & Schatzkin, A. (1992). Sample size for studying intermediate endpoints within intervention trials of observational studies. *American Journal of Epidemiology*, *136*, 1148–1159.

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. doi:10.1080/10503300600789189

Gross, R., Glasser, S., Elisha, D., Tishby, O., Jacobson, D., Levitan, G., & Ponizovsky, A. M. (2015). Validation of the outcome questionnaire (OQ-45): Hebrew and Arabic versions adapted for use in Israel. *Israel Journal of Psychiatry and Related Sciences*, *52*, 33–39.

Hadley, J. A., Holloway, E. L., & Mallinckrodt, B. (1993). Common aspects of object relations and self-representations in offspring from disparate dysfunctional families. *Journal of Counseling Psychology*, *40*, 348–356. doi:10.1037//0022-0167.40.3.348

Horvath, A. O., Del Re, A. C., Fluckiger, C., & Symonds, D. (2011). Alliance in individual psychotherapy. *Psychotherapy*, *48*, 9–16. doi:10.1037/a0022186

King, J. L., & Mallinckrodt, B. (2000). Family environment and alexithymia in clients and non- clients. *Psychotherapy Research*, *10*, 78–86. doi:10.1080/713663595

Lambert, M. J. (2004). *Administration and scoring manual for the OQ-45.2 (Outcome Questionnaire)*. OQ Measures: Salt Lake City.

Lambert, M. J., Burlingame, G. M., Umphress, V., Hansen, N. B., Vermeersch, D. A., Clouse, G. C., & Yanchar, S. C. (1996).

The reliability and validity of the outcome questionnaire. *Clinical Psychology and Psychotherapy*, *3*, 249–258. doi:10.1002/(SICI)1099-0879(199612)

Levy, K. N. (1999). Attachment style, representation of self and others, and affect regulation: Implications for the experience of depression. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, *60*, 4895.

Levy, K. N. (2005). The implications of attachment theory and research for understanding borderline personality disorder. *Development and Psychopathology*, *17*(4), 959–986.

Levy, K. N., Beeney, J. E., Wasserman, R. H., & Clarkin, J. F. (2010). Conflict begets conflict: Executive control, mental state vacillations, and the therapeutic alliance in treatment of borderline personality disorder. *Psychotherapy Research*, *20*, 413–422. doi:10.1080/10503301003636696

Levy, K. N., & Blatt, S. J. (1999). Attachment theory and psychoanalysis: Further differentiation within insecure attachment patterns. *Psychoanalytic Inquiry*, *19*, 541–575. doi:10.1080/07351699909534266

Levy, K. N., Edell, W. S., & McGlashan, T. H. (2007). Depressive experiences in inpatients with borderline personality disorder. *Psychiatric Quarterly*, *78*, 129–143. doi:10.1007/s11126-006-9033-8

Levy, K. N., Ellison, W. D., Scott, L. N., & Bernecker, S. L. (2011). Attachment style. *Journal of Clinical Psychology*, *67*, 193–203. doi:10.1002/jclp.20756

Levy, K. N., Johnson, B. N., Clouthier, T. L., Scala, J. W., & Temes, C. M. (2015). An attachment theoretical framework for personality disorders. *Canadian Psychology/Psychologie Canadienne*, *56*, 197–207. doi:10.1037/cap0000025

Levy, K. N., & Kelly, K. M. (2008). Using interviews to assess adult attachment. In J. H. Obegi & E. Berant (Eds.), *Attachment theory and research in clinical work with adults* (pp. 121–152). New York, NY: Guilford.

Levy, K. N., Meehan, K. B., Kelly, K. M., Reynoso, J. S., Weber, M., Clarkin, J. F., & Kernberg, O. F. (2006). Change in attachment patterns and reflective function in a randomized control trial of transference-focused psychotherapy for borderline personality disorder. *Journal of Consulting and Clinical Psychology*, *74*, 1027–1040. doi:10.1037/0022-006X.74.6.1027

Lilliengren, P., Werbart, A., Mothander, P. R., Ekström, A., Sjögren, S., & Őgren, M. (2014). Patient attachment to therapist rating scale: Development and psychometric properties. *Psychotherapy Research*, *24*, 184–201. doi:10.1080/10503307.2013.867462

Ludlow, L., & Klein, K. (2014). Suppressor variables: The difference between "is" versus "acting as." *Journal of Statistics Education*, *22*(2), 1–22. Retrieved from http://www.amstat.org/publications/jse/v22n2/ludlow.pdf

Maassen, G. H., & Bakker, A. B. (2001). Suppressor variables in path models: Definitions and interpretations. *Sociological Methods & Research*, *30*, 241–270. doi:10.1177/0049124101030002004

MacKinnon, D. P., Lockwood, C. M., Hoffman, J. M., West, S. G., & Sheets, V. (2002). A comparison of methods to test mediation and other intervening variable effects. *Psychological Methods*, *7*, 83–104. doi:10.1037/1082-989X.7.1.83

Main, M., Kaplan, N., & Cassidy, J. (1985). Security in infancy, childhood, and adulthood: A move to the level of representation. *Monographs of the Society for Research in Child Development*, *50*(1–2), 66–104. doi:10.2307/3333827

Mallinckrodt, B. (2010). The psychotherapy relationship as attachment: Evidence and implications. *Journal of Social and Personal Relationships*, *27*, 262–270. doi:10.1177/0265407509360905

Mallinckrodt, B., & Chen, E. C. (2004). Attachment and interpersonal impact perceptions of group members: A Social Relations Model analysis of transference. *Psychotherapy Research*, *14*, 210–230. doi:10.1093/ptr/kph018

Mallinckrodt, B., Choi, G., & Daly, K. D. (2015). Pilot test of a measure to assess therapeutic distance and its association with client attachment and corrective experience in therapy. *Psychotherapy Research*, *25*, 505–517. doi:10.1080/10503307.2014.928755

Mallinckrodt, B., Gantt, D. L., & Coble, H. M. (1995). Attachment patterns in the psychotherapy relationship: Development of the client attachment to therapist scale. *Journal of Counseling Psychology*, *42*, 307–317. doi:10.1037/0022-0167.42.3.307

Mallinckrodt, B., & Jeong, J. S. (2015). Meta-analysis of client attachment to therapist: Associations with working alliance and client pre-therapy attachment. *Psychotherapy*, *52*, 134–139. doi:10.1037/a0036890

Mallinckrodt, B., Porter, M. J., & Kivlighan, D. M., Jr. (2005). Client attachment to therapist, depth of in-session exploration, and object relations in brief psychotherapy. *Psychotherapy: Theory, Research, Practice, Training*, *42*, 85–100. doi:10.1037/0033-3204.42.1.85

Mallinckrodt, B., & Wei, M. (2005). Attachment, social competencies, social support, and psychological distress. *Journal of Counseling Psychology*, *52*, 358–367. doi:10.1037/0022-0167.52.3.358

McNemar, Q. (1969). *Psychological statistics* (4th ed.). New York, NY: Wiley.

Mikulincer, M., & Shaver, P. R. (2007). *Attachment in adulthood: Structure, dynamics, and change*. New York, NY: Guilford Press.

Parish, M., & Eagle, M. N. (2003). Attachment to the therapist. *Psychoanalytic Psychology*, *20*, 271–286. doi:10.1037/0736-9735.20.2.271

Petrowski, K., Pokorny, D., Nowacki, K., & Buchheim, A. (2013). The therapist's attachment representation and the patient's attachment to the therapist. *Psychotherapy Research*, *23*, 25–34. doi:10.1080/10503307.2012.717307

Romano, V., Fitzpatrick, M., & Janzen, J. (2008). The secure-base hypothesis: Global attachment, attachment to counselor, and session exploration in psychotherapy. *Journal of Counseling Psychology*, *55*, 495–504. doi:10.1037/a0013721

Sauer, E. M., Anderson, M. Z., Gormley, B., Richmond, C. J., & Preacco, L. (2010). Client attachment orientations, working alliances, and responses to therapy: A psychology training clinic study. *Psychotherapy Research*, *20*, 702–711. doi:10.1080/10503307.2010.518635

Scala, W. S., Ellison, W. D., & Levy, K. N. (2014). The working alliance in the treatment of borderline personality disorder: A meta-analysis. In K. N. Levy (Moderator), *Alliance at the border: Establishing, maintaining, and researching alliance in patients with borderline personality disorder*. Paper presented at the international annual meeting of the Society for Psychotherapy Research, Copenhagen, Denmark.

Spinhoven, P., Giesen-Bloo, J., Van Dyck, R., Kooiman, K., & Arntz, A. (2007). The therapeutic alliance in schema-focused therapy and transference-focused psychotherapy for borderline personality disorder. *Journal of Consulting & Clinical Psychology*, *75*, 104–115. doi:10.1037/0022-006X.75.1.104

Stiles, W. B., & Snow, J. S. (1984a). Counseling session impact as viewed by novice counselors and their clients. *Journal of Counseling Psychology*, *31*, 3–12. doi:10.1037/0022-0167.31.1.3

Stiles, W. B., & Snow, J. S. (1984b). Dimensions of psychotherapy session impact across sessions and across clients. *British Journal of Clinical Psychology*, *23*, 59–63. doi:10.1111/j.2044-8260.1984.tb00627.x

Taylor, P., Rietzschel, J. Danquah, A., & Berry, K. (2015). Changes in attachment representations during psychological therapy. *Psychotherapy Research*, *25*, 222–238. doi:10.1080/10503307.2014.886791

Teyber, E., & McClure, F. H. (2011). *Interpersonal process in therapy: An integrative approach* (6th Ed.). Belmont, CA: Brooks-Cole/Cengage.

Whitener, E. M. (1990). Confusion of confidence intervals and credibility intervals in meta-analysis. *Journal of Applied Psychology*, *75*, 315–321. doi:10.1037/0021-9010.75.3.315

Wiseman, H., & Tishby, O. (2014). Client attachment, attachment to therapist and client-therapist attachment match: How do they relate to change in psychodynamic psychotherapy? *Psychotherapy Research*, *24*, 392–406. doi:10.1080/10503307.2014.892646