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A meta-analysis of the relation between patient adult attachment style and the working alliance

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Abstract

This meta-analysis synthesizes research on the relation between patient adult attachment style and patient-rated working alliance. A random-effects model was used to calculate the mean weighted product-moment correlation (r) for 24 studies (12 published in peer-reviewed journals and 12 unpublished doctoral dissertations) of individual outpatient therapy with adults. The mean weighted r for attachment avoidance and alliance was $-.137$, $p < .001$, and the mean weighted r for attachment anxiety and alliance was $-.121$, $p < .001$. These findings suggest that therapists should attend to attachment in order to foster alliance and have additional implications for theory and future research.

Keywords: attachment; alliance; meta-analysis; psychotherapy; therapeutic relationship

Over the past two decades, few constructs have garnered as much attention from psychotherapy researchers as the therapeutic alliance, which has been explored in terms of its theoretical structure, its influence on outcome, the factors that influence it, and its optimum development. The ubiquity of studies of the alliance owes partly to the finding that it is one of the few variables that consistently correlates with outcome. Four major meta-analyses of the alliance and outcome have been conducted to date: in 1991, Horvath and Symonds found a correlation of $r = .26$; in 2000, Martin, Garske, and Davis found that among 79 studies, the average weighted correlation between alliance and outcome was $r = .22$; Horvath and Bedi's 2002 meta-analysis found a correlation of $r = .21$; and most recently, Horvath, Del Re, Flückiger, and Symonds (2011) analyzed 190 independent samples and found a correlation of $r = .275$. While this magnitude of correlation is traditionally considered in the "weak" range, it is compelling in light of weaker and less-conclusive findings on numerous other potential common and specific factors (Horvath & Luborsky, 1993; Wampold, 2001). Given the number of variables that can be expected to influence outcome, some researchers have argued persuasively that the alliance is among the most important predictors of improvement in therapy (Lambert & Barley, 2001;

Norcross, 2002; Wampold, 2001). The robustness of the alliance-outcome relation has led the Division 29 Task Force on Empirically Supported Therapy Relationships to label the alliance a "demonstrably effective" factor (Ackerman et al., 2001) and to a view of the alliance as the "quintessential integrative variable" due to its perceived centrality to process across modalities (Wolfe & Goldfried, 1988).

The concept of alliance has evolved from origins that can be traced through the ideas of Freud and Rogers into a broadly accepted transtheoretical construct that encompasses the collaborative aspects of the therapeutic relationship (Castonguay, Constantino, & Grosse Holtforth, 2006; Constantino, Castonguay, & Schut, 2002; Elvins & Green, 2008; Horvath & Luborsky, 1993; Horvath & Symonds, 1991). Because it is the basis of the most common measure appearing in this meta-analysis, Bordin's (1979) proposed structure for the alliance is particularly relevant. Integrating the work of Sterba (1934) and Menninger (1958) with that of Zetzel (1956) and Greenson (1967), he delineated three components: Goals, or agreement on what the client should accomplish in therapy; tasks, or agreement on what steps both the therapist and the client need to take to reach those goals; and bond, or mutual trust and understanding.

The reason for the alliance-outcome relation remains open to debate, with three potential causal pathways between the constructs dominating contemporary thought. One possibility is that the alliance is a necessary but insufficient condition that serves as a context for the processes that cause improvement by, for example, establishing the trust that the patient needs to self-disclose and to engage in treatment (Constantino et al., 2002). Another pathway may be direct, with alliance formation causing decreases in symptoms, acting as a curative process in itself by providing the patient with new models of interpersonal interactions (Constantino et al., 2002; Henry & Strupp, 1994). Finally, given that many studies do not account for symptom improvement prior to alliance measurement, it is also possible that early remoralization both augments the patient's perception of the therapeutic relationship and predicts later change, with no causal pathway flowing from alliance to outcome. Among the few studies that have partialled out change taking place early in therapy (e.g., Barber, Connolly, Crits-Christoph, Gladis, & Siqueland, 2000; DeRubeis & Feeley, 1990), findings have been mixed, with some studies showing significant alliance-outcome correlations even after accounting for improvement prior to alliance measurement, while the correlation disappears or becomes nonsignificant in others (Barber, 2009). Some researchers have hypothesized that type of therapy moderates the causal pathway, with different reasons for alliance-outcome relations in different therapies: For example, the alliance may be directly curative in interpersonal therapies, but facilitative in behavioral therapies (Barber, 2009; DeRubeis, Brotman, & Gibbons, 2005). The true nature of the alliance-outcome relation is likely to be complex rather than linear, including the three pathways proposed here as well as others (e.g., with third variables such as capacity to form interpersonal relationships [Barber et al., 2000] playing a part), in addition to mediation, moderation, and dialectical processes. Therefore, disentangling its inner workings will prove to be a considerable challenge.

Regardless of the causal pathways underlying the alliance-outcome relation, determining sources of variance in the alliance is an important task. First, doing so can elucidate the process by which the alliance forms, suggesting methods for strengthening it and, if better alliance leads to better outcome, improving symptoms. Second, knowing what characteristics vary with the alliance could provide evidence for or against the theories of alliance-outcome relation described above and could even improve understanding of the alliance construct itself, which despite its centrality remains theoretic-

cally nebulous. Among the factors that may influence the alliance are individual differences among clients, that is, client characteristics (Clarkin & Levy, 2004), and a number have already been shown to relate moderately to the alliance (e.g., perfectionism, self-concept; Constantino et al., 2002).

Several researchers have identified adult attachment style as among the client variables potentially relevant to the alliance (Bowlby, 1988; Levy, Ellison, Scott, & Bernecker, 2011; Mikulincer & Shaver, 2007). Attachment theory, originally articulated by Bowlby (1988), proposes that individuals' representations of interpersonal relationships stem from early experiences with caretakers, and that particular patterns of relating, called adult attachment styles, develop as a result (Fraley & Shaver, 2000). Given that a patient's subjective perception of the alliance generally relates more strongly to outcome than alliance rated from other perspectives (Horvath et al., 2011), it seems likely that the patient's previous experiences in relationships, operationalized as attachment style, form a substantive component of the alliance. In fact, although Bowlby developed attachment theory to describe normal and pathological development, he also suggested that attachment representations may be activated during therapy, with the therapist fulfilling functions analogous to childhood attachment figures, serving both as a "secure base" from which to explore and as a "safe haven" offering protection and comfort when the patient is distressed (Bowlby, 1982).

A number of researchers have built on this idea and theorized a variety of possible ways attachment and the alliance may interact. Several, particularly those of the analytic school, have suggested that the alliance is wholly or partly transference and thus, like attachment, is driven by early relationships (see Safran & Muran, 2006), whereas Holmes (2001) considers the therapeutic alliance nothing more than an attachment bond to the therapist. Similarly, Berant and Obegi (2009) propose that it may be fruitful to view the alliance as composed of attachment security (corresponding to the alliance dimension of confident collaboration) and the attachment bond (corresponding to the therapeutic bond). In contrast, many theorists, including Mallinckrodt (2010), Farber (Farber & Metzger, 2009), and Parish and Eagle (2003), believe that an attachment bond can form with the therapist that constitutes an important component of the therapy relationship, but identify attachment to therapist and the alliance as separate constructs with incremental validity. Others have implicated attachment style as a causal factor in the alliance (Eagle & Wolitzky, 2009; Mikulincer, Shaver, Cassidy, & Berant, 2009), with patient insecure attachment impeding alliance

formation, or have simply acknowledged that, at the very least, there may be an “attachment dynamic at play in alliance and in relation to outcome” (Elvins & Green, 2008).

Illuminating the role of patient attachment in the alliance has potential clinical utility. Castonguay and colleagues (2006) propose that one of many productive directions in alliance research is to develop and include in therapies techniques for developing and maintaining the alliance. If attachment style affects the alliance, targeting attachment during therapy may be a strategy for improving alliance. They also suggest that addressing the alliance with insecurely attached patients could act to change attachment by “[paving] the way for corrective relational experiences” (Castonguay, Constantino, & Grosse Holtforth, 2006, p. 276) that improve the patient’s maladaptive interpersonal schemas.

Classification of adult attachment styles has evolved since the initial description of those styles by Main and colleagues. Main developed an assessment instrument, the Adult Attachment Interview (AAI), that uses Bowlby’s and Ainsworth’s categories of infant attachment to derive its classifications of adult attachment: Secure, dismissing (corresponding to Ainsworth’s anxious-avoidant), preoccupied (corresponding to Ainsworth’s anxious-resistant), and unresolved (corresponding to Ainsworth’s disorganized). Secure individuals are capable of both intimacy and independence. They are comfortable having others rely on them for emotional support and are willing to rely on others. They are confident that they are worthy of love and care. Dismissing individuals value independence, often minimizing the importance of maintaining close relationships and derogating emotions related to caring and intimacy. Preoccupied individuals fear abandonment, rely on others for emotional support, and often struggle to achieve the degree of intimacy they desire, vacillating between feeling “smothered” and neglected. Finally, individuals who appear to dissociate when discussing trauma during the AAI are classified as “unresolved with respect to trauma” and tend to behave inconsistently in relationships (Main, Kaplan, & Cassidy, 1985).

While developmental psychologists often continue to use interviews in their research, social psychologists have developed and refined self-report measures of adult attachment. Hazan and Shaver (1987) shifted the focus of adult attachment to romantic relationships when they created a prototype-style self-report measure of adult attachment that includes categories of secure, avoidant (corresponding to Main’s dismissing), and anxious (corresponding to Main’s preoccupied). Bartholomew (1990; Bartholomew & Horowitz, 1991) then differentiated

between two types of avoidance: the traditional avoidant/dismissing type and a fearful type in which the individual desires intimacy but is afraid to seek it, often based on past experiences in which close relationships caused pain. Self-report measures of adult attachment have proliferated in the years since these developments (Crowell, Fraley, & Shaver, 2008; Ravitz, Maunder, Hunter, Sthankiya, & Lancee, 2010).

To develop the Experiences in Close Relationships scale (ECR), Brennan, Clark, and Shaver (1998) factor-analyzed the major self-report measures of adult attachment available at the time and found that the items loaded on two factors, which they labeled avoidance and anxiety. As a result of the method of its development, this underlying two-dimensional structure and the ECR based on it represents something of a consensus. Additionally, the dimensions parallel aspects of other models and correspond particularly well to Bartholomew and Horowitz’s (1991) profiles: An individual low on both anxiety and avoidance falls into the secure category; an individual high on avoidance and low on anxiety is dismissing-avoidant; an individual high on anxiety and low on avoidance is preoccupied; and an individual high on both anxiety and avoidance is fearful-avoidant.

If attachment style contributes to the alliance, one should find a correlation between measures of patient attachment and alliance. Several studies have correlated these variables, but their results have varied. While most found small to moderate negative relations between both anxiety and alliance and avoidance and alliance, some have found a positive relation between an attachment dimension and alliance (e.g., Goldman & Anderson, 2007) and several others found a negligible relation between an attachment dimension and alliance (e.g., Sauer, Lopez, & Gormley, 2003). Given the heterogeneity of past research, a logical next step is to use meta-analysis both to determine whether a relation exists and to estimate its size. Diener and Monroe (2011) meta-analyzed the relation between the security versus insecurity dimension of attachment and the alliance, concluding that secure attachment is associated with better alliance: In 17 independent samples with a total of 886 subjects, secure attachment style was associated with stronger alliance, $r = .17$. This meta-analysis had several limitations. First, Diener and Monroe include only published papers in their meta-analysis, which invites the possibility of publication bias. Additionally, the results may underestimate of the strength of the relation between attachment and alliance. As explained above, attachment measures are numerous and diverse, and none correlates perfectly with the others. This imperfect relation likely attenuates the size of the correlation (Schmidt,

Le, & Oh, 2009). Finally, while the finding is useful in that it confirms the possibility of a relation, albeit weak, between attachment and alliance, it confers limited practical advantage on the clinician. While insecure attachment is not in itself a “disorder,” clinical populations tend to be less securely attached than the general population (Bakermans-Kranenburg & van IJzendoorn, 2009; Fortuna & Roisman, 2008; Mickelson, Kessler, & Shaver, 1997); therefore, practitioners are more likely to conduct therapy with a variety of insecurely attached patients than with secure patients. Therapists may, then, find a more fine-grained analysis useful, one that examines which types of insecure attachment are associated with worse alliance. In other words, are both anxiety and avoidance dimensions associated with decreased alliance, and to what degree? This meta-analysis improves upon previous work by correcting for imperfect convergent validity of measures, by including a number of unpublished doctoral dissertations, and by analyzing the relations between two dimensions of insecure attachment and the alliance.

The primary hypothesis of this meta-analysis is that both attachment avoidance and attachment anxiety will relate inversely to the quality of the alliance. Consistent with their focus on self-reliance, avoidant patients may feel uncomfortable asking for support from the therapist and may withdraw if the therapist probes about past attachment relationships (Dozier, 1990; Dozier, Lomax, Tyrrell, & Lee, 2001; Slade, 2008), impeding formation of an alliance. Anxious patients, on the other hand, may feel disappointed that they cannot rely on the therapist to solve their problems immediately or that the therapist is inadequately attentive or nurturing (Slade, 2008). The accessibility and volatility of their emotions may also lead to alliance ruptures. However, because anxious patients are emotionally available and willing to discuss personal topics (Levy, Meehan, & Temes, 2012; Levy, Meehan, Weber, Reynoso, & Clarkin, 2005), we predict that the negative relation between anxiety and the alliance will prove weaker than that between avoidance and the alliance.

Method

Selection of Studies

Articles and dissertations for inclusion in the meta-analysis were found by examining reviews of the literature (Berant & Obegi, 2009; Diener, Hilsenroth, & Weinberger, 2009; Diener & Monroe, 2011; Smith, Msetfi, & Golding, 2010) and through database searches. The final literature search was conducted within the PsycINFO and Dissertation Abstracts

databases on 8 July 2012, using the search terms (*attachment OR “relationship style” OR “interpersonal style”*) AND (*alliance OR “therapeutic relationship” OR “client-therapist relationship” OR “therapist-client relationship” OR “patient-therapist relationship” OR “therapist-patient relationship”*). The first author read abstracts of the studies appearing in the search results and obtained full texts for those that appeared to be eligible for this meta-analysis. When articles indicated that appropriate data were collected, but the data were not reported or appeared in a format that could not be converted to an effect size, the study authors were contacted by email to request more information.

Studies needed to meet several criteria: (a) the study had to include individual therapy with adults, (b) the study had to include a patient self-report measure of attachment that correlates strongly with the ECR ($r > .7$) according to the published literature, and (c) the study had to include a patient self-report measure of alliance that correlates strongly with the Working Alliance Inventory (WAI; Horvath & Greenberg, 1986, 1989). The ECR was selected as the “gold-standard” measure of attachment because, as explained previously, it reflects the orthogonal dimensions theorized to underlie attachment, because it approximates a consensus among several other measures, and because of its excellent psychometric properties (Ravitz et al., 2010). The WAI was selected because it has been highly validated in terms of construct, convergent, and predictive validity (Elvins & Green, 2008) and because the majority of studies showing a relation between alliance and outcome use the WAI (Martin et al., 2000). The search for studies was not restricted by publication type, language, or year of publication. Studies in which attachment was measured with interviews were excluded because, while both interview and self-report measures of attachment demonstrate predictive validity, they correlate weakly and appear to measure different aspects of attachment (Bartholomew & Shaver, 1998).

Patient report of alliance was selected because it consistently predicts outcome better than therapist report (e.g., Barber et al., 1999; Horvath, 1994; Horvath & Symonds, 1991), though in a small subset of instances observer report may be superior (e.g., in the cases of substance use disorders; Cecero, Fenton, Frankforter, Nich, & Carroll, 2001; Fenton, Cecero, Nich, Frankforter, & Carroll, 2001). Additionally, the overwhelming majority of studies found use patient report, probably on the basis of both its predictive validity and its convenience (Martin et al., 2000), allowing for a larger sample than if another type of reporting was chosen.

Study Coding

The first author coded studies for patient, therapist, treatment, and methodological characteristics. Patient characteristics included sex, mean age, race, and pathology; therapist characteristics included level of experience, sex, and race; treatment characteristics included theoretical orientation and treatment setting (university clinic, community clinic, private practice, or inpatient); and study/methodological characteristics included publication status, measures used, whether attachment was measured at intake or simultaneously with alliance, time of alliance measurement, dropout between attachment and alliance measurement (if applicable), and therapist and patient recruitment methods. Where a single treatment study existed both in published form and in a dissertation, the study was considered published.

Noting that a high-quality study is more likely to yield an accurate estimate of the population effect size than a poorly conducted one, some researchers have argued that meta-analyses should weight studies rated as higher-quality more heavily (e.g., Greenwald & Russell, 1991). However, the studies in this sample were fairly homogeneous in quality; consequently, assigning each study a weight based on quality would likely result in little to no change in the overall mean effect size. Additionally, because the deficits among studies were similar, those same limitations apply to this meta-analysis as a whole. These issues, then, were addressed as much as possible through inclusion of methodological characteristics in the regression analysis.

Effect Size Estimation

The product-moment correlation (r) was used as the effect size statistic for the meta-analysis. Because all the studies that included effect sizes reported results in the form of correlations, and all authors of studies that did not report an effect size provided the data in the form of correlations, no transformations of other statistics into r -values were necessary. When a study measured alliance multiple times throughout the therapy, the correlations for each measurement time were weighted by the number of subjects who completed that measurement and combined into one effect size.

Validity Correction and Combination of Effect Sizes

To limit studies to those that used a single, “gold-standard” measure of attachment or alliance would have resulted in the loss of more than half of the eligible studies. However, the imperfect convergent

validity of these measures would result in an attenuation of the average effect size if combined without correction. In order to better estimate effect sizes as if all studies had used the ECR and the WAI, the reported effect sizes of each study were divided by an artifact correction consisting of the correlation between the attachment measure used and the ECR multiplied by the correlation between the alliance measure used and the WAI. These correlations were found in the literature (Brennan et al., 1998; Busseri & Tyler, 2003; Hatcher & Barends, 1996; Hatcher & Gillaspay, 2006; Safran & Wallner, 1991; Wei, Russell, Mallinckrodt, & Vogel, 2007) and, in the case of the Experiences in Close Relationships-Revised scale, by examining unpublished data (Levy, 2009b).

The effect sizes were combined using the method outlined by Schmidt, Le, and Oh (2009), which assumes a random-effects model and assigns each study a weight based on its sample size and any attenuation artifacts for which corrections have been applied (in this meta-analysis, the only correction was for construct validity) so that studies with more subjects and fewer artifacts are more heavily weighted. Random-effects models are based on the assumption that there is some heterogeneity in the true effect sizes of studies beyond those resulting from measurement error, and they have become the preferred model for meta-analyses (Diener et al., 2009; Schmidt, 2010). To estimate the spread of that random distribution, 80% credibility intervals were calculated using Schmidt et al.’s (2009) method. Hunter and Schmidt’s (2004) method was used to test for homogeneity among the uncorrected effect sizes; presumably, the effect sizes should be more heterogeneous prior to correction, facilitating detection of existing moderators.

Publication Bias

To test for publication bias, funnel plots were visually inspected for symmetry and Duval and Tweedie’s trim and fill procedure (2000) and Begg and Mazumdar’s rank correlation (1994) were used. Additionally, a “file drawer analysis” was completed using Hunter and Schmidt’s (2004) method to determine the number of studies averaging null results that would be needed to reduce the effect sizes to a trivial magnitude ($-.05 < r < .05$).

Moderation Analysis

In order to test whether any variables moderated the findings among studies, the authors conducted weighted least squares regressions (Lipsey & Wilson, 2001) on the Z_r -transformed (Hedges & Olkin,

1985), uncorrected effect sizes. Wilson's (2005) macro was used to conduct the regression with a random effects model and iterative maximum likelihood estimation.

Several potential moderators could not be examined because of insufficient variance among studies or because too few studies reported on the characteristic. The variables that could be tested included measure used for attachment and alliance, publication status (dichotomized as published study or unpublished dissertation), session number at which alliance was measured, time of attachment measurement (dichotomized as either at intake or post-intake), mean age of subjects, percent of subjects identified as female, percent of subjects identified as White, and percent of therapists classified as trainees.

Results

Sample Characteristics

Figure 1 depicts the process of identifying studies for inclusion. Twelve published studies and 12 unpublished dissertations were included in the meta-analysis and are summarized in Table I. The studies ranged in publication year from 1995 to 2012 and surveyed a total of 1321.08 subjects (with "fractional" subjects resulting from the averaging of numbers of subjects in studies in which alliance was measured multiple times). The mean number of subjects in a study was 55.05 (range 22.33–99). The mean age of study participants was approximately

32 years (range of means 21.6–45.2), 74.4% of the participants were female (range 50%–100%), and 75.2% were White (range 47.01%–100%). Most studies measured early alliance: More than half of the studies collected alliance measurements after session two or three, and all but four studies measured alliance at a session prior to the eighth. The modal study was naturalistic, including clients with heterogeneous presenting problems and therapists practicing a variety of theoretical orientations. Because therapy in all the samples was conducted in outpatient settings, severe and acute mental illness was poorly represented.

Effect Sizes

The mean weighted r for avoidance and alliance was $-.137$ with a 95% confidence interval from $-.169$ to $-.105$ ($p < .001$) and an 80% credibility interval from $-.239$ to $-.034$, with greater attachment avoidance predicting weaker alliance. The mean weighted r for anxiety and alliance was $-.121$ with a 95% confidence interval from $-.153$ to $-.089$ ($p < .001$) and an 80% credibility interval from $-.223$ to $-.019$, indicating that greater attachment anxiety was associated with weaker alliance. The test for homogeneity among the uncorrected effect sizes was nonsignificant for both avoidance ($X^2 = 31.91$, $df = 23$, $p = .102$) and anxiety ($X^2 = 31.76$, $df = 23$, $p = .105$), providing no evidence for moderators; however, because one cannot prove the null hypothesis, we proceeded with exploratory regression analyses to examine specific moderators.

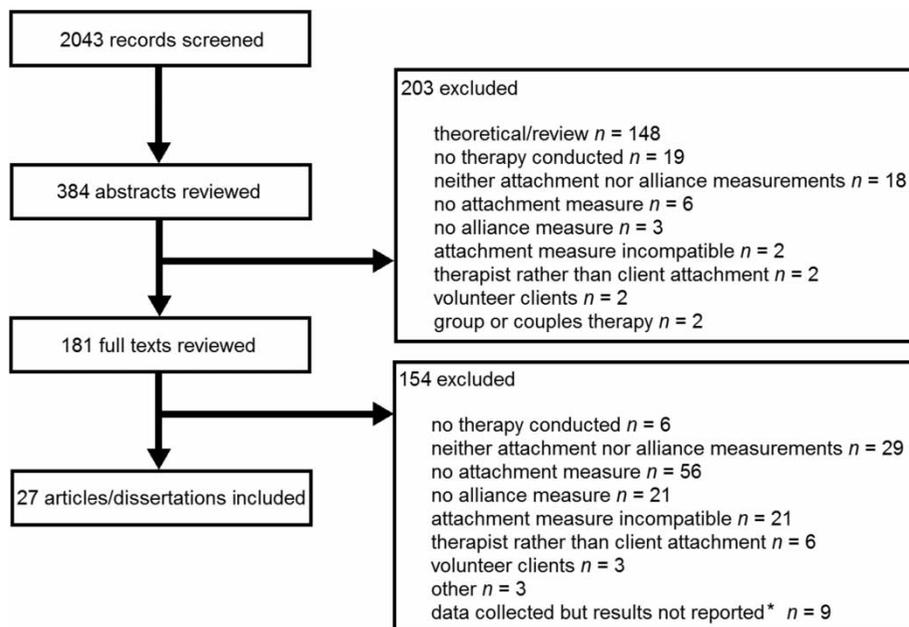


Figure 1. Flow of studies through the meta-analysis. *In the cases of these studies, authors were contacted for additional data, but either did not respond or no longer had access to the data.

Table I. Studies Included in the Meta-Analysis

Study	<i>n</i>	Attachment measure	Alliance measure	Publication status	Reported ES		Corrected ES	
					Avoidance	Anxiety	Avoidance	Anxiety
Bair (2008)	86	ASQ	WAI-S	U	-.01	-.10	-.01	-.12
Biscoglio (2005)	32	RSQ	WAI-S	U	-.02	.22	-.03	.31
Britton (2005)	51	ECR	CASF	U	.17	.12	.20	.14
Brummett (2008)	99	ECR-R	WAI-S	U	-.21	-.09	-.22	-.10
Dyke (1996)	90	AAS	WAI	U	-.30	-.02	-.34	-.03
Eames & Roth (2000)	24.75 ^a	RSQ	WAI-S	P	-.278	-.209	-.35	-.30
Frehling (2005)	29	ECR	WAI	U	-.018	.117	-.02	.12
Goldman & Anderson (2007)	30	AAS	WAI	P	.085	-.264	.10	-.33
Helwig (1996)	43	AAS	WAI	U	-.32	-.14	-.37	-.18
Kivlighan et al. (1998)	40	AAS	WAI	P	-.35	-.19	-.40	-.24
Majors (2009)	47	ECR	WAI-S	U	-.33	-.17	-.34	-.18
Mallinckrodt et al. (1995)	76	AAS	WAI	P	-.22	-.32	-.25	-.41
Mallinckrodt et al. (2005)	38	ECR	WAI	P	-.24	-.33	-.24	-.33
Marmarosh et al. (2009)	31	ECR-S	WAI-S	P	-.32	-.11	-.35	-.12
Mendelow (2008)	85	ECR-R	WAI-S	U	.02	-.03	.02	-.03
Niemeyer (2004)	40	AAS	CALPAS	U	.12	.03	.16	.04
Porter (2002)	37	ECR	WAI	U	-.34	-.26	-.26	-.34
Romano et al. (2008)	67	ECR	WAI	P	-.22	-.27	-.22	-.27
Satterfield & Lyddon (1995)	60	AAS	WAI	P	-.12	-.19	-.14	-.24
Sauer et al. (2003)	22.33 ^a	AAInv	WAI	P	.089	-.005	.11	-.01
Sauer et al. (2010)	95	ECR	WAI	P	.00	-.26	.00	-.26
Schiff & Levit (2010)	87	ECR	WAI-S	P	-.226	-.062	-.23	-.06
Smith et al. (2012)	58	ECR	WAI	P	.012	.055	.01	.06
Stewart (2005)	53	ECR-R	CASF	U	.07	.26	.08	.33

Note. AAS = Adult Attachment Scale (Collins & Read, 1990); AAInv = Adult Attachment Inventory (Simpson, 1990); ASQ = Attachment Style Questionnaire (Feeney, Noller, & Hanrahan, 1994); CALPAS = California Psychotherapy Alliance Scale (Gaston & Marmar, 1994); CASF = Combined Alliance Short Form (Hatcher & Barends, 1996); ECR = Experiences in Close relationships (Brennan et al., 1998); ECR-R = Experiences in Close Relationships-Revised (Fraley, Waller, & Brennan, 2000); ECR-S = Experiences in Close Relationships-Short form (Wei et al., 2007); ES = effect size; P = published; RSQ = Relationship Scales Questionnaire (Griffin & Bartholomew, 1994); U = unpublished; WAI = Working Alliance Inventory (Horvath & Greenberg, 1986); WAI-S = Working Alliance Inventory-Short Form (Tracey & Kokotovic, 1989).

^aSubject sizes that are not whole numbers result from taking the mean number of subjects from multiple measurement times in a single study.

Publication Bias

The funnel plots for both meta-analyses appeared symmetric, suggesting a lack of publication bias; this perception was reinforced by the trim and fill procedure, which trimmed no studies and thus did not adjust the overall mean effect sizes. Begg and Mazumdar's rank correlation was also consistent with an absence of publication bias, being nonsignificant for both avoidance ($\tau = .076$, $p = .301$) and anxiety ($\tau = .033$, $p = .412$). The file drawer analysis indicated that 41.8 studies averaging null results would need to be found to reduce the mean effect size for avoidance to $r = -.05$, and 34.0 studies averaging null results would reduce the anxiety-alliance correlation to $-.05$.

Moderators

Only one moderator emerged as significant: In both the avoidance and anxiety meta-analyses, the three studies that used measures other than the WAI or

WAI-S had significantly larger effect sizes than those that did not ($B = .277$, $p = .014$ for avoidance, $B = .245$, $p = .027$ for anxiety). In fact, for these studies, two of which used the Combined Alliance Short Form (CASF) and one of which used the California Psychotherapy Alliance Scale (CALPAS), effect sizes were positive, indicating that patients with insecure attachment styles had stronger alliances in these studies. Because the CASF and the WAI and the CALPAS and the WAI correlate strongly, it is unlikely that these contrasting findings are due to the measures themselves; given that only three studies used these measures, it seems probable that the difference is due to chance.

Discussion

The intent of this meta-analysis was to quantify the strength of the relations between attachment avoidance and alliance and between attachment

anxiety and alliance. As hypothesized, both relations were negative, with higher avoidance and higher anxiety predicting worse alliance, $r = -.137$ and $r = -.121$ respectively, $ps < .001$. These findings are consistent with Diener and Monroe's (2011) finding that secure attachment relates to stronger alliance, and they provide the additional information that the anxiety and avoidance dimensions of attachment relate with similar magnitude to the alliance. Though these correlations are small, they may be clinically and theoretically relevant. When numerous factors are likely to contribute to variance, one expects that even relatively important factors will correlate weakly with the dependent variable of interest. This is, in fact, one of the arguments made for considering an alliance–outcome correlation that falls consistently in the “weak” range an indication of the alliance's great relevance (Horvath et al., 2011). Therefore, to further develop theory about the therapeutic relationship and to improve clinical practice, it is important to understand the source of these relations between alliance and outcome.

These results could be due to a causal relationship between attachment and alliance or to a third variable that relates to both. It could be that insecure attachment weakens the alliance. Interestingly, the inverse relationship between attachment and alliance is of similar magnitude for both anxiety and avoidance. However, anxiously and avoidantly attached individuals differ in their interpersonal goals (Pietromonaco & Beck, in press), so it is likely that a negative impact of attachment style on alliance acts through different pathways for each dimension of attachment (Clarkin & Levy, 2004). Perhaps avoidant patients struggle to form an emotional bond with the therapist because of their limited willingness to rely on others or experience alliance ruptures when the therapist probes more deeply than is comfortable as a result of their discomfort with closeness. In contrast, anxious patients may be dissatisfied with the amount of support offered by the therapist or may react more strongly to perceived slights or rejections. Future research should investigate these possible pathways in order to hone in on specific in-therapy behaviors that could improve or impede the alliance with anxiously versus avoidantly attached individuals.

On the other hand, at least in the cases when attachment was measured after some therapy had taken place, the causal arrow could run in the opposite direction: Consistent with the idea that alliance formation can be a corrective relational experience, patients in stronger alliances may have become more securely attached. Of course, this cannot be the entirety of the driving force behind

the correlations, because those studies that measured the alliance at intake did not find significantly different correlations from those that measured alliance later.

Numerous compelling third variables can also be explored as explanations for the findings, including symptom severity. It is possible that insecurely attached clients are more distressed than securely attached clients, or that they differ in the type of presenting problems, and that their distress or their particular psychopathology impedes alliance formation. Insecurely attached patients do tend to display more severe symptomatology than their securely attached counterparts (Bakermans-Kranenburg & van IJzendoorn, 2009; Fortuna & Roisman, 2008; Mickelson et al., 1997); however, past research has only inconsistently demonstrated a relation between pretreatment symptom severity and alliance (Constantino et al., 2002).

Another possible explanation for the findings is that social-cognitive factors rather than affective factors associated with insecure attachment impede the development of the alliance. The same high-quality parenting that encourages secure attachment fosters the development of interpersonal skills, including such constructs as mentalization and social cognition (Fonagy, Gergely, Jurist, & Target, 2002). Both bond formation and reaching agreement on tasks and goals demand clear communication from both parties in the therapeutic relationship, and solid interpersonal skills are presumably the foundation of such communication. Therefore, it is quite possible that the inverse relation between insecure attachment and alliance can be explained by deficits in interpersonal skills, a possibility that is corroborated by findings that it is more challenging to form an alliance with patients who have difficulty maintaining social relationships, are low in psychological-mindedness, or have deficits in mentalization (Horvath, 1991, cited in Constantino et al., 2002; Levy, 2009a).

A third possibility is that attachment style in general affects specific attachment to the therapist, which then affects alliance. Mallinckrodt (2010) proposes that some, but not all, therapy relationships display the characteristics of attachment relationships, including providing a safe haven and a secure base and acting as a target of proximity seeking and separation anxiety. Insecurity in attachment in general does not preclude formation of secure attachment with an individual; therefore, a client's general attachment style may mirror his or her attachment to the therapist in some cases but not in others. Specific attachment to the therapist, then, may be a better predictor of the alliance than general attachment style. In support of this hypothesis, studies have

consistently found moderate to strong correlations between Mallinckrodt's Client Attachment to Therapist Scale (CATS) and alliance measures (Bachelor, Meunier, Laverdière, & Gamache, 2010; Fuertes et al., 2007; Mallinckrodt, Gantt, & Coble, 1995; Mallinckrodt, Porter, & Kivlighan, 2005; Romano, Fitzpatrick, & Janzen, 2008; Sauer, Anderson, Gormley, Richmond, & Preacco, 2010). In fact, the correlations are so strong that Robbins (1995) has expressed doubts that the CATS is measuring a construct distinct from the alliance; however, Mallinckrodt (2010) argues that the face validity of the CATS (in that its items correspond to criteria for attachment relationships) and its ability to predict an additional portion of in-session exploration (which he classifies as a "secure base" attachment behavior) beyond that predicted by the alliance constitute evidence for its independence and utility as a construct. Further study should investigate the shared variance and incremental validity of the constructs of the alliance and specific attachment to therapist, particularly in relation to outcome.

The small size of the relations found here suggests that attachment style and the alliance are distinct constructs, with a patient's relationship-related schemas having at most a limited effect on the alliance. While other patient and therapist pretreatment characteristics may influence the alliance, it is doubtful that they explain all of the alliance; this finding contributes to the body of evidence that alliance is a function of what transpires in the therapy room. Insecurely attached patients are not predestined to fail to form alliances; it is incumbent upon both the therapist and patient to behave in ways that nurture alliance during the therapy.

The relations may also be diminished due to the phenomenon of *responsiveness*. Stiles (Stiles, 2009; Stiles, Honos-Webb, & Surko, 1998) suggests that therapist and client respond moment-by-moment to each other's personal characteristics, utterances, and nonverbal behavior. These adjustments result in each therapy uniquely adapting to its participants even if its main techniques are predetermined. Stiles notes that the therapist's degree of responsiveness to client variables and behavior will determine the statistical relationship of the client variable to outcome (Stiles, 2009; Stiles et al., 1998). Clarkin and Levy (2004) propose that degrees of responsiveness may vary across trials, masking or washing out the relations between patient variables and other process or outcome variables in some studies but not in others, thus accounting for inconsistent findings in the client variable literature. Consistent with this interpretation, findings from a number of studies (Diamond et al., 1999; Dozier, Cue, & Barnett, 1994; Dozier et al., 2001; Hardy, Stiles, Barkham, &

Startup, 1998; Tyrrell, Dozier, Teague, & Fallot, 1999) suggest that it may be difficult to untangle the relation between patient attachment and alliance, in part, because therapists respond flexibly to the patient's clinical needs as a function of attachment style, tailoring interventions and their delivery to the patient's attachment style even if they are not necessarily aware of it (Levy et al., 2005, 2012).

Limitations

Like all meta-analyses, this study was limited by the content of the available literature. The studies included were demographically narrow: Most were conducted in university counseling centers and clinics with predominantly White, female, and young subjects. Therefore, one must exercise caution in generalizing to other populations. Methodological artifacts, including shared method variance and researcher bias—allegiance has been shown to affect treatment study results (accounting for 69% of the variance according to Luborsky et al., 1999)—could account for a portion of the attachment-alliance relations found. Only those potential mediators and moderators that were reported in a sufficient number of studies could be analyzed. As a result, the questions of whether symptom severity, social cognition, or other factors mediate or moderate the attachment-alliance relation cannot be answered meta-analytically at this time. Finally, the heterogeneity of the measures used in the studies likely introduced error, despite the inclusion of correction factors. The correction factors themselves contain sampling error, and the studies in which they were calculated may have sampled appreciably different populations than the studies in this meta-analysis: For instance, several of the studies that correlated measures surveyed non-clinical samples, whereas all the samples in the meta-analysis were clinical.

Conclusion

Future research should seek to identify the causes of the relation between alliance and outcome with the ultimate goal of developing strategies to improve both the therapy relationship and patient outcomes. In particular, it should analyze different behaviors associated with alliance ruptures in anxious and avoidant attachment and should investigate whether attachment to the therapist mediates the attachment-alliance relation. Further, mentalization and social cognition should be measured to address both whether they relate to the alliance and whether any relation discovered accounts for the attachment-alliance relation. Determining whether an

attachment-related impediment to the alliance is more of an affective impediment or a social-cognitive one will direct interventions aimed at improving the alliance. In addition to measuring symptomatology and mentalization/social cognition, future studies may bear fruit by measuring other client variables that have been shown to relate to alliance (e.g., perfectionism, self-concept; Constantino et al., 2002). Incorporating ratings by therapists or observers may also prove useful in identifying the proportion of variance attributable to rater bias.

In addition to these implications for research, this study has implications for clinical practice. Therapists should be aware that the alliance may be at risk when treating insecurely attached patients. Attending and reacting to attachment style during treatment costs little, as there are numerous brief self-report measures available, and may also improve outcome through processes other than the alliance: Levy, Ellison, Scott, and Bernecker (2011) have meta-analytically demonstrated a relation between patient attachment and outcome. Additionally, insecure attachment can be a target for intervention (e.g., Muller & Rosenkranz, 2009) in cases when insecure attachment is among the causes of distress or is involved in maintaining other symptoms. Levy and colleagues (2011), Mallinckrodt and colleagues (Daly & Mallinckrodt, 2009; Mallinckrodt, 2010), and Brisch (2012) provide suggestions for tailoring therapy to patients' attachment styles, with different recommendations for anxiously and avoidantly attached patients. In addition to being responsive to attachment style, it is also important for therapists to remember that attachment styles do not completely determine the alliance, so those with insecure attachment are not predestined to fail to form an alliance; therefore, a focus must remain on the present relationship between the therapist and client.

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