

Attachment Style

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Attachment theory, developed by Bowlby to explain human bonding, has profound implications for conducting and adapting psychotherapy. We summarize the prevailing definitions and measures of attachment style. We review the results of three meta-analyses examining the association between attachment anxiety, avoidance, and security and psychotherapy outcome. Fourteen studies were synthesized, which included 19 separate therapy cohorts with a combined sample size of 1,467. Attachment anxiety showed a *d* of $-.46$ with posttherapy outcome, while attachment security showed a *d* of $.37$ association with outcome. Attachment avoidance was uncorrelated with outcome. The age and gender composition of the samples moderated the relation between attachment security and outcome: samples with a higher proportion of female clients and a higher mean age showed a smaller relation between security and outcome. We discuss the practice implications of these findings and related research on the link between attachment and the therapy relationship. © 2010 Wiley Periodicals, Inc. *J Clin Psychol: In Session* 67:193–203, 2011.

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Attachment style or organization is a concept that derives from John Bowlby's attachment theory and refers to a person's characteristic ways of relating in intimate caregiving and receiving relationships with "attachment figures," often one's parents, children, and romantic partners. The concept involves one's confidence in the availability of the attachment figure for use as a *secure base* from which one can freely explore the world when not in distress as well as a *safe haven* from which one can seek support, protection, and comfort in times of distress. Exploration of the world includes not only the physical world but also relationships with other people and reflection on one's internal experience.

From its inception, Bowlby (1982) conceptualized attachment theory as guiding clinical practice. Consistent with this idea, there has been increased interest in the application of an attachment theory perspective to psychotherapy (see Berant & Obegi, 2009; Levy & Kelly, 2009, for reviews). Bowlby not only suggested that the psychotherapist can become an attachment figure for the client, but also thought it was important for the therapist to become a reliable and trustworthy companion in the patient's exploration of his or her experiences. Secure attachment behaviors in psychotherapy include the use of the therapist as a secure base from which the individual can freely reflect on his or her experience, reflect on the possible contents of the minds of significant others, and explore the possibility of trying new experiences and engaging in novel behaviors. Additionally, Bowlby discussed patients turning to the therapist as a safe haven for comfort and support in times of distress. A number of clinical theorists have elaborated upon Bowlby's ideas about the function of attachment within the therapeutic relationship (e.g., Farber, Lippert, & Nevas, 1995; Farber & Metzger, 2009; Obegi, 2008).

The association between adult attachment and psychotherapy has been conceptualized and examined both with attachment as an outcome variable and with attachment as a moderator

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of treatment outcome. Early findings suggest that patient attachment status may be relevant to the course and outcome of psychotherapy and may also change as a result of psychotherapy. A recent review of this literature (Berant & Obegi, 2009) concluded that securely attached clients tend to benefit more from psychotherapy than insecurely attached clients. However, the findings across these studies have been variable, with some studies suggesting that securely attached clients may not necessarily show more improvement in treatment compared with insecurely attached clients (Cyranowski et al., 2002; Fonagy et al., 1996). In addition, the strength of the relation between attachment security and treatment outcome remains unclear.

In this article, we attempt to clarify the strength of that relation through a meta-analysis of the research on the association between clients' pretreatment attachment style and psychotherapy outcome. We begin by reviewing the prevailing definitions and measures of adult attachment style. We then summarize three separate meta-analyses. We hypothesized that attachment anxiety would be negatively related to outcome, that attachment avoidance would be negatively related to outcome, and that attachment security would be positively related to outcome. Because research on attachment is converging on the notion that the two dimensions of avoidance and anxiety underlie adult attachment, we decided to focus on these dimensions instead of the individual attachment categories, which evidence more variability among assessment methods. In addition, we examined attachment security (which can be conceptualized as a blend of avoidance and anxiety dimensions) because it has often been the focus of psychotherapy research. We conclude the article by noting the major limitations of the research reviewed and by advancing research-supported therapeutic practices.

Definitions and Measures

Based on Bowlby's theory, Ainsworth, Blehar, Waters, and Wall (1978) developed a laboratory method called the Strange Situation to evaluate individual differences in attachment security in infants. This method includes a series of laboratory episodes staged in a playroom, through which the infant, the caregiver, and a stranger interact and the behaviors of the infant are observed. Special attention is paid to the infant's behavior upon reunion with the caregiver after a brief separation. Ainsworth (Ainsworth et al., 1978) identified three distinct patterns or styles of attachment, which have since been termed *secure* (63% of the dyads tested), *anxious-resistant* or *ambivalent* (16%), and *avoidant* (21%).

Stemming from Bowlby's contention that the attachment system remains active throughout the lifespan, various investigators in the mid-1980s began to apply the tenets of attachment theory to the study of adult behavior and personality. Because these investigators worked independently, they often used slightly different terms for similar constructs or focused on different aspects of Bowlby's and Ainsworth's writings.

Mary Main and her colleagues developed the Adult Attachment Interview (AAI; George, Kaplan, & Main, 1985; Main, Kaplan, & Cassidy, 1985), a 1-hour attachment-history interview, noting that features in interviews with parents of infants reliably predicted the Strange Situation behavior of their children. The interview inquires into "descriptions of early relationships and attachment and adult personality" (Main et al., 1985, p. 98). Three major patterns of adult attachment were initially identified: *secure/autonomous*, *dismissing*, and *enmeshed/preoccupied*. More recently, two additional categories have been identified: *unresolved* and *cannot classify*. The first three categories parallel the attachment classifications originally identified in childhood of secure, avoidant, and anxious-resistant (Ainsworth et al., 1978), and the unresolved classification parallels a pattern Main later described in infants that she called *disorganized/disoriented* (Main & Solomon, 1986). A number of studies found that AAI classifications based on individuals' reports of interactions with their own parents could predict their children's Strange Situation classifications (see van IJzendoorn, 1995, for a review).

Hazan and Shaver (1987) extrapolated the childhood attachment paradigm to study attachment in adulthood by conceptualizing romantic love as an attachment process, translating Ainsworth's patterns into a paper-and-pencil prototype-matching measure of adult attachment styles. Bartholomew (1990) and Bartholomew and Horowitz (1991) revised Hazan

and Shaver's three-category classification scheme, proposing a four-category model that differentiated between two types of avoidant styles: fearful and dismissing.

In an effort to develop a definitive measure of adult attachment and respond to the proliferation of attachment measures, Brennan, Clark, and Shaver (1998) created the Experiences in Close Relationships (ECR) scale, which was derived from a factor analysis of previously existing measures. The factor analysis revealed that the ECR's dimensions of anxiety and avoidance underlie most measures of adult attachment style.

Clinical Examples

Secure Attachment

Given that secure individuals are more open to exploring their surroundings and relationships, it is not surprising that evidence suggests that they tend to be (a) open, collaborative, compliant, committed, and proactive in treatment, (b) trusting of therapists, and most important, (c) able to integrate their therapists' comments (Dozier, 1990; Korfsmacher, Adam, Ogawa, & Egeland, 1997; Riggs et al., 2002).

Preoccupied Attachment

Because preoccupied individuals can be so interpersonally engaged, they often initially appear to be easier to treat. Preoccupied individuals are often eager to discuss their worries and relationship difficulties as well as their own role in these problems (Dozier, 1990). Because the chaotic and contradictory representations of self and others of individuals classified as preoccupied are so rich, they may be more readily mentalized by the therapist. However, both clinical and empirical evidence suggests that these individuals may be difficult to treat. Preoccupied clients, despite tending to present themselves as needy, are no more compliant with treatment plans than dismissing individuals (Dozier, 1990), and they tend to show less improvement (Fonagy et al., 1996).

Dismissing Attachment

Dismissing patients are often resistant to treatment, have difficulty asking for help, and retreat from help when it is offered (Dozier, 1990). Indeed, dismissive patients often evoke countertransference of being excluded from their lives (Diamond et al., 1999; 2003). In our pilot study (Clarkin et al., 2001), a patient classified as dismissive came into session one morning and announced, to her therapist's surprise, that she was getting married that afternoon. Although he had known of her engagement, it had been many months since she had brought up any aspect of her upcoming marriage. Additionally, dismissing individuals often become more distressed and confused when confronted with emotional issues in therapy (Dozier, Lomax, Tyrrell, & Lee, 2001). Another dismissive patient, when reflecting on her experience in therapy, stated:

[The therapist] would start digging into things and find out why I was angry, and then I would realize something really made me mad, but I didn't want to be mad. With my parents, for example, I didn't want to be angry at them.

"Unresolved for Trauma or Loss" Attachment

This classification is unique in that it is given to an individual in addition to one of the organized attachment patterns. Clinical writers have suggested that it can be very difficult to treat those patients who are unresolved for trauma or loss on the AAI. In two studies it was found that between 32% and 60% of patients with borderline personality disorder (BPD) were classified as unresolved (Diamond et al., 2003; Levy et al., 2006). In a randomized clinical trial (Levy et al., 2006), we found a nonsignificant decrease from pretreatment to posttreatment in

the number of patients classified as unresolved (32% vs. 22%). However, in a small sample of women with childhood sexual and physical abuse-related posttraumatic stress disorder (PTSD), 62% of unresolved patients lost their unresolved status after treatment (Stovall-McClough & Cloitre, 2003).

Meta-Analytic Review

Inclusion Criteria and Search Strategy

Eligible studies were published reports of psychotherapy outcome in samples of treatment-seeking individuals. These studies were found through articles reviewing the literature (e.g., Berant & Obegi, 2009) and through a series of PsycINFO searches. These searches, conducted in December 2009, used the intersections of the terms attachment, interpersonal style, relation* style, or the name of an attachment measure with either therap* outcome, psychotherap* outcome, or outcome. The search initially returned 10,155 results. After foreign-language studies (531), dissertations (8), and studies that did not include treatment trials (9,448) were excluded, 168 articles remained. Many of these were irrelevant to the topic at hand; only studies that measured attachment and treatment outcome were included.

To be included in the meta-analyses, studies had to report statistics showing the relation between patients' pretreatment attachment security, anxiety, and/or avoidance to outcome posttreatment. For many identified studies, statistics describing the relation between attachment and outcome were not directly available from the published report, in which case the authors of the study were contacted via e-mail and asked to provide these statistics. The corresponding authors of 15 primary studies were contacted, of which 10 responded with suitable statistics. Our final pool of studies analyzed comprised 14 studies, which contained 19 separate therapy samples with a combined N of 1,467. Table 1 lists the studies included in the meta-analysis along with relevant characteristics of their designs and samples.

Independence of Effect Size Estimates

Effect sizes (ESs) were considered independent if they described results from separate samples. In one case, relevant information from a single sample was available from multiple research reports (Kirchmann et al., 2009; Strauss et al., 2006), so only one statistic was drawn from these reports. In other cases, separate statistics from multiple samples (for example, different treatment groups) were presented in the same publication (Levy et al., 2006; McBride, Atkinson, Quilty, & Bagby, 2006; Stalker, Gebotys, & Harper, 2005; Tasca et al., 2006). For these studies, multiple ES estimates were coded and treated as independent.

Several studies provided statistics relating attachment to more than one outcome measure. These estimates were not considered independent because they were derived from the same sample and are thus likely to display substantial intercorrelation. Because we had no *a priori* reason to consider any one of these estimates representative of the study's "true" ES, multiple ES estimates from the same study were transformed to Z scores (Hedges & Olkin, 1985), averaged, and then back-transformed and treated as a single ES.

Study Coding

Several patient characteristics were coded, including the proportion of the sample that was female, mean age of the sample, proportion of the sample that was White, and whether the primary diagnosis of the sample was an Axis I disorder (e.g., major depressive disorder) or an Axis II disorder (e.g., borderline personality disorder). The treatment characteristics coded included theoretical orientation (cognitive-behavioral or psychodynamic therapies) and length of treatment in weeks. The operationalization of attachment was coded for its degree of approximation to attachment avoidance and attachment anxiety, and attachment measures were coded for rater (client-rated or observer-rated attachment). Finally, the following therapist variables were coded: mean years of experience, proportion of therapists in the study that was female, and student status.

Table 1
Summary of Studies Included in Meta-Analysis of Patient Attachment and Outcome

Table 1
Continued

Study	Patients			Attachment		Therapy		Outcome		
	N	% Female	Age (M)	Diagnosis	Measure	Rater	Orientation	Duration (weeks)	Measure	Rater
Saatisi et al. (2007)	82	72.7	34.92	MDD	Vignettes	C	CB	14	BDI	C
Stalker et al. (2005)	114	100	40.6	PTSD	RAQ	C	D	6	SCL-90-R	C
	18	100	40.6	PTSD	AAQ	C	D	6	MPSS-SR	C
Strauss et al. (2006)	476	70	34.4	PD	AAPR	NT	D	10	SCL-90-R	C
Tasca et al. (2006)	33	100	42.75	BED	ASQ	C	CB	16	IP	C
	33	100	42.75	BED	ASQ	C	D	16	EDEbinge	NT
Travis et al. (2001)	59	59	41	Unspecified	BARS	NT	D	21	EDEbinge	NT

Note. Raters: C = client; NT = nontreater; T = therapist. Orientations: CB = cognitive-behavioral; D = dynamic; E = eclectic; I = integrative. Diagnoses: BED = binge eating disorder; BPD = borderline personality disorder; IPV = intimate partner violence; MDD = major depressive disorder; PDNOS = personality disorder not otherwise specified; PTSD = post-traumatic stress disorder. Attachment measures: AAPR = Adult Attachment Prototype Rating; AAI = Adult Attachment Interview; AAS = Adult Attachment Scale; AAQ = Avoidant Attachment Questionnaire; ASQ = Attachment Style Questionnaire; BARS = Bartholomew Attachment Rating Scale; ECR/ECR-R = Experiences in Close Relationships-Revised; RAQ = Reciprocal Attachment Questionnaire; RSQ = Relationship Scales Questionnaire; RQ = Relationship Questionnaire. Outcome measures: BDI = Beck Depression Inventory; DASSatits = satisfaction subscale of the Dyadic Adjustment Scale; EDEbinge = Eating Disorder Examination assessment of days binged; GAF = Global Assessment of Functioning; HAMA = Hamilton Rating Scale for Anxiety; HAM-D = Six-item Hamilton Depression Rating Scale; HRSD = Hamilton Rating Scale for Depression; IP = Inventory of Interpersonal Problems; MPSS-SR = Modified PTSD Symptom Scale-Self-Report; psychabuse = psychological abuse subscale of the Conflict Tactics Scale; SCL-90-R = Symptom Checklist-90-Revised; TSC-40 = Trauma Symptom Checklist-40; violence = subscale of the Conflict Tactics Scale.

ES Estimates

The ES statistic used for the current meta-analysis was the Pearson product-moment correlation coefficient (r), describing the relation between attachment variables and posttreatment outcome measures. In some cases, statistics relating attachment to outcome took other forms, such as means and standard deviations for different attachment groups on outcome measures, t tests of these values, or tables showing categories of outcome (e.g., how many individuals had achieved a certain symptom score) by attachment group. In these cases, statistics were transformed to r values (using formulas presented in Lipsey & Wilson, 2001). Although it would be optimal to control for pretreatment correlations between attachment and symptom scales, this was not feasible because of inconsistent reporting among studies. Thus, all correlations used in the current analyses were zero-order correlations between pretreatment attachment and posttreatment outcome.

The statistics for the 14 primary studies were adjusted for two factors that could be expected to impart a systematic bias onto ES estimates. First, each study was adjusted to account for differences in operationalization of attachment. The analysis focuses on attachment security and the underlying attachment dimensions of avoidance and anxiety, and when measures provide an imperfect assessment of these constructs, the resulting ES estimate is attenuated (Schmidt, Le, & Oh, 2009). Therefore, each study was corrected to account for how closely its attachment measure approximated these dimensions of attachment. In order to do this, each observed ES was divided by a correlation value, which was culled from the available literature (Brennan et al., 1998; Tsagarakis, Kafetsios, & Stalikas, 2007), of the attachment measure used in the study with the ECR. Because of the method of its development, the ECR was assumed to measures attachment anxiety and attachment avoidance with the most fidelity. Additionally, it has repeatedly shown strong reliability and validity (Brennan et al., 1998; Ravitz, Mauder, Hunter, Sthankiya, & Lancee, 2010).

A second correction was applied to account for artificial dichotomization of attachment dimensions or dimensional outcome constructs, which also attenuates ES estimates (Schmidt et al., 2009). Hunter and Schmidt's (1990) correction to these values was thus applied. To ensure that more valid estimates contributed more to the overall mean than estimates for which these two artifact corrections was large, each ES estimate was weighted not only by sample size but it was also assigned a weight based on the size of the two artifact corrections (Hunter & Schmidt, 2004; Schmidt et al., 2009).

Analyses

The mean ES was computed as a weighted average of each independent sample's correlation coefficient. The weights comprised two coefficients: the sample size, so that each study's contribution to the overall mean would be inversely proportional to sampling error, and a multiplier based on the artifact corrections made to each ES, so that studies that more nearly approximated the constructs of interest were weighted more heavily (Hunter & Schmidt, 2004; Schmidt et al., 2009). Random effects modeling was used for each analysis, given the multiple sources of variability between studies and the resultant implausibility of fixed-effects models.

For all three attachment dimensions, homogeneity of ES estimates was tested by means of Hunter and Schmidt's (2004) 75% criterion, which estimates the amount of variance in ESs that is due to artifacts. If this value is more than 75% of the total variance, then a search for measureable moderators of the ES may be unproductive, because the remaining variance in ESs is comparatively small. This method was used because homogeneity tests based on a null hypothesis of homogeneity (such as the Q statistic) would likely have little power given the small number of studies in the meta-analyses.

Results

The mean weighted r between attachment anxiety and psychotherapy outcome was $-.224$ (Cohen's weighted $d = -.460$). Outcomes were coded so that higher numbers reflected better

outcome. Thus, higher attachment anxiety predicted worse outcome after therapy. The 80% credibility interval around this estimate ranged from $-.158$ to $-.291$ ($d = -.320$ to $-.608$).

The mean weighted r between attachment avoidance and treatment outcome was $-.014$ ($d = -.028$), with an 80% credibility interval of $-.165$ to $.136$ ($d = -.335$ to $.275$). This suggests that attachment avoidance had a negligible overall effect on outcomes in psychotherapy.

The mean weighted r between attachment security and outcome was $.182$ ($d = .370$), with an 80% credibility interval of $.042$ to $.321$ ($d = .084$ to $.678$). Thus, higher attachment security predicted more favorable outcomes in psychotherapy.

The influence of outliers was a concern because the meta-analysis involved a small but heterogeneous sample of primary studies. Outliers were detected by means of the sample-adjusted meta-analytic deviancy (SAMD; Huffcutt & Arthur, 1995) statistic. No outliers could be identified among the primary studies' estimates of the relation between outcome and attachment anxiety, avoidance, or security. Therefore, all values were retained for further analyses.

Moderators and Mediators

For all three attachment dimensions, we tested for homogeneity of ES estimates by means of Hunter and Schmidt's (2004) 75% criterion. These analyses indicated that a substantial proportion of the ES estimates was indeed artifactual (see Levy, Ellison, Scott, & Bernecker, 2011, for details). We followed with an exploratory analysis of potential moderators.

Unfortunately, for a number of the coded variables, the effects of moderators could not be estimated because data about them were not available, or because there was not enough variance among the primary studies on the moderator variable. For two examples, the moderating influence of sample ethnicity and therapist level of experience could not be estimated because of insufficient data or variability.

No moderators were found to influence the size of the relation between either attachment avoidance and treatment outcome or attachment anxiety and treatment outcome.

However, two sample-level moderators did significantly influence the effect of attachment security on outcome. Both the proportion of females ($Z = 2.78$, $p < .01$) and the mean age ($Z = 2.02$, $p < .05$) of the patients exerted an effect, such that the more female and older the sample, the smaller the observed relation between security and outcome. We suspect that the effect of gender can be explained by one study (Cyranowski et al., 2002), which included only women and found the weakest relation between security and outcome. In fact, running the analysis without including this study completely erased the significant gender effect, with a regression coefficient of nearly zero. Nonetheless, there are gender differences in attachment (i.e., studies suggest that more men than women demonstrate insecure and dismissing attachment styles; e.g., Bartholomew & Horowitz, 1991; Levy, Blatt, & Shaver, 1998; Levy & Kelly, 2010) that could potentially influence psychotherapy outcome, and this possibility might be further explored in future research.

Additionally, client age emerged as a significant moderator, such that the positive relation between attachment security and outcome was attenuated in samples that were older on average. This finding may be explained by cross-sectional research showing older adults are more likely to be securely attached, and less likely to be fearfully attached, than younger adults (Diehl, Elnick, Bourbeau, & Labouvie-Vief, 1998; Mickelson, Kessler, & Shaver, 1997). If this is a developmental, rather than a cohort-based, effect, then this difference suggests that some preoccupied individuals become secure (perhaps by finding or creating an intimate relationship with a trustworthy other) as they age.

Limitations of the Research

There are still relatively few empirical studies that have examined how client attachment influences psychotherapy outcome, limiting the size of our meta-analysis. In addition, there are few investigations regarding matching patients to treatments or therapists based on attachment patterns; so few, in fact, that we could not submit them to a meta-analysis.

Another limitation of our meta-analyses is that we could not control for the correlations between attachment and pretreatment functioning. The interpretation of posttreatment symptoms as outcome is potentially problematic because it does not consider baseline levels or actual change in symptoms as a function of treatment. Hence, any association between attachment and posttreatment functioning may, to some degree, reflect the relation between attachment and psychopathology. Although a number of studies that did control for the influence of pretreatment functioning on the association between attachment security and outcome have reported findings that are consistent with ours (e.g., Meyer, Pilkonis, Proietti, Heape, & Egan, 2001; Saatsi, Hardy, & Cahill, 2007; Strauss et al., 2006), the results of the current analyses should be interpreted with caution in that respect.

Summary and Therapeutic Practices

The ESs for the association of both attachment security ($r = .18$) and attachment anxiety ($r = -.22$) with treatment outcomes are in the small to moderate range, but just below those found for the association of therapeutic alliance with outcomes. Thus, in these 14 studies, clients' attachment style appears to contribute almost as much variance to psychotherapy outcome as does the alliance, a well-established predictor of therapeutic change.

However, clients' attachment security also tends to be positively associated with therapeutic alliance, with an average ES of $r = .17$ according to a recent meta-analysis (Diener, Hilsenroth, & Weinberger, 2009). Perhaps the capacity to develop a positive therapeutic alliance is enhanced by a client's level of attachment security. Conversely, the formation of a positive therapeutic alliance may serve as one mechanism by which a client's level of attachment security leads to better psychotherapy outcomes.

We derive several practice implications from the empirical research on attachment style and our meta-analysis.

- Assess the patient's attachment style. Attachment style can influence the psychotherapy process, the responses of both patients and therapists, the quality of the therapeutic alliance, and the ultimate outcome of treatment. Formal interviewing or use of reliable self-report measures can be useful as part of the assessment process.
- Understanding a patient's attachment organization will provide important clues as to how the patient is likely to respond in treatment and to the therapist. Expect longer and more difficult treatment with anxiously attached patients but quicker and more positive outcome with securely attached patients.
- Knowledge of the patient's attachment style can help the therapist anticipate how the patient may respond to the therapist's interventions and guide the therapist in calibrating to the patient's interpersonal style. That is, if the patient is dismissing in his or her attachment, then the therapist may need to be more engaged. In contrast, if the patient is preoccupied in his or her attachment, then the therapist should consider a stance designed to help the patient contain his or her emotional experience. This may include explicit articulations of the treatment frame, the provision of more structure to compensate for the patient's tendency to feel muddled, and efforts to avoid collusion with the patient who may pull the therapist to engage in more emotional/experiential techniques that only contribute to the patient feeling overwhelmed.
- At the same time, psychotherapists should not go too far in contrasting patients' attachment styles. Practice and research suggest that therapists titrate their interpersonal styles so as not to overwhelm dismissing patients or to appear disengaged, aloof, or uninterested to preoccupied patients.
- Research indicates that attachment style can be modified during treatment. Therefore, change in attachment can be conceptualized as a proximal outcome, not just a predictive patient characteristic, and could be considered a goal of treatment. Early findings suggest that the focus on the relation between the therapist and patient and/or the use of interpretations may be the mechanisms by which change in attachment organization is

achieved, at least for severely disturbed personality disordered patients (Levy et al., 2006; Høglend et al., 2009). However, the early research also demonstrates that a range of treatments may be useful for achieving changes in attachment representations in less disturbed patients with neurotic-level or Axis I disorders.

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(An asterisk [*] indicates studies included in the meta-analysis.)

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