

# A Systematic Review of Psychological Predictors of Mother-Infant Bonding

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## BACKGROUND

- The relationship between mother and child plays an important role in both maternal and child well-being during the postpartum period.
- Impairments of the mother-infant bond are associated with insecure infant attachment and increased risk for child abuse and neglect.
- Maternal psychological symptoms may contribute to impairments in mother-infant bonding.
- The goal of this study was to provide a systematic review of the empirical literature on the relationship between psychological symptoms and mother-infant bonding and to assess whether interventions targeting maternal symptoms result in improvements in mother-infant bonding.

## METHOD

- A comprehensive literature search identified empirical studies in which self-reported mother-infant bonding was assessed using a validated self-report measure during the first 12 months postpartum (see flow chart).
- Characteristics of studies and data for calculation of effect sizes were coded according to a manual by two raters.
- Effect sizes for continuous predictors (symptoms of depression and anxiety) were calculated using correlation coefficients.
- Effect sizes for categorical predictors (interventions: uncontrolled effect sizes, representing change from pre-treatment to post-treatment, and controlled effect sizes, representing differences between treatment and control conditions at post-treatment) were calculated using Cohen's *d*.
- Analyses were conducted using Comprehensive Meta-Analysis v. 2.0.

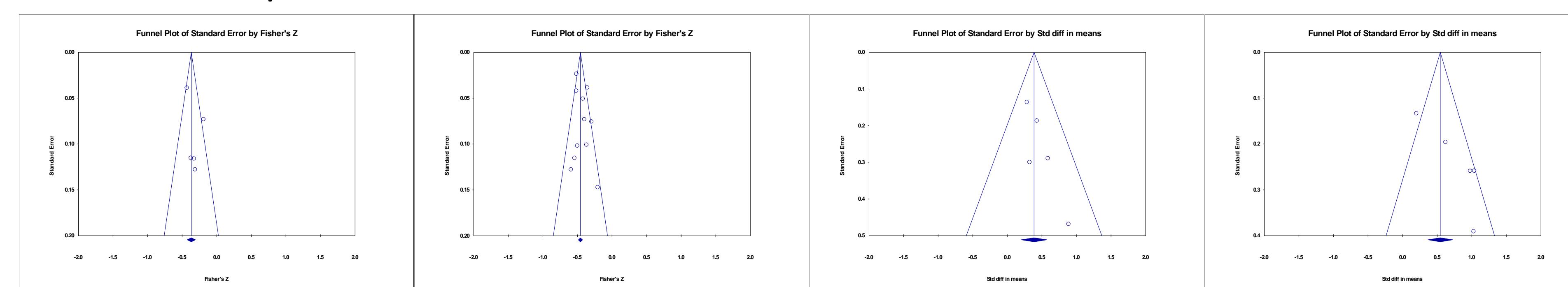
## RESULTS

	<i>k</i>	<i>r</i>	95% CI	<i>Q(df)</i>	<i>I</i> <sup>2</sup>
<b>Anxiety</b>					
Total (All Studies)	5	-0.32***	-0.42 - -0.22	9(4)	55
Total (Outliers Excluded)	3	-0.33***	-0.44 - -0.20	0(2)	0
<b>Depression</b>					
Total (All Studies)	13	-0.41***	-0.48 - -0.34	84(12)***	86
Total (Outliers Excluded)	11	-0.41***	-0.46 - -0.36	25(10)**	61

**Table 1.** Random weighted effect sizes from studies assessing symptoms of anxiety and depression as predictors of mother-infant bonding. Negative correlations indicate greater impairments in mother-infant bonding associated with increased symptoms.

	<i>k</i>	<i>d</i>	95% CI	<i>Q(df)</i>	<i>I</i> <sup>2</sup>
<b>Interventions: Controlled ES</b>					
Total (All Studies)	6	0.29 <sup>†</sup>	-0.01 - 0.59	12(5)*	58
Total (Outliers Excluded)	5	0.39***	0.20 - 0.57	2(4)	0
Total (Trim-and-Fill Correction)		0.34	0.16 - 0.51		
<b>Interventions: Uncontrolled ES</b>					
Total (All Studies)	5	0.72***	0.34 - 1.10	15(4)**	73
Total (Trim-and-Fill Correction)		0.64	0.31 - 0.97		

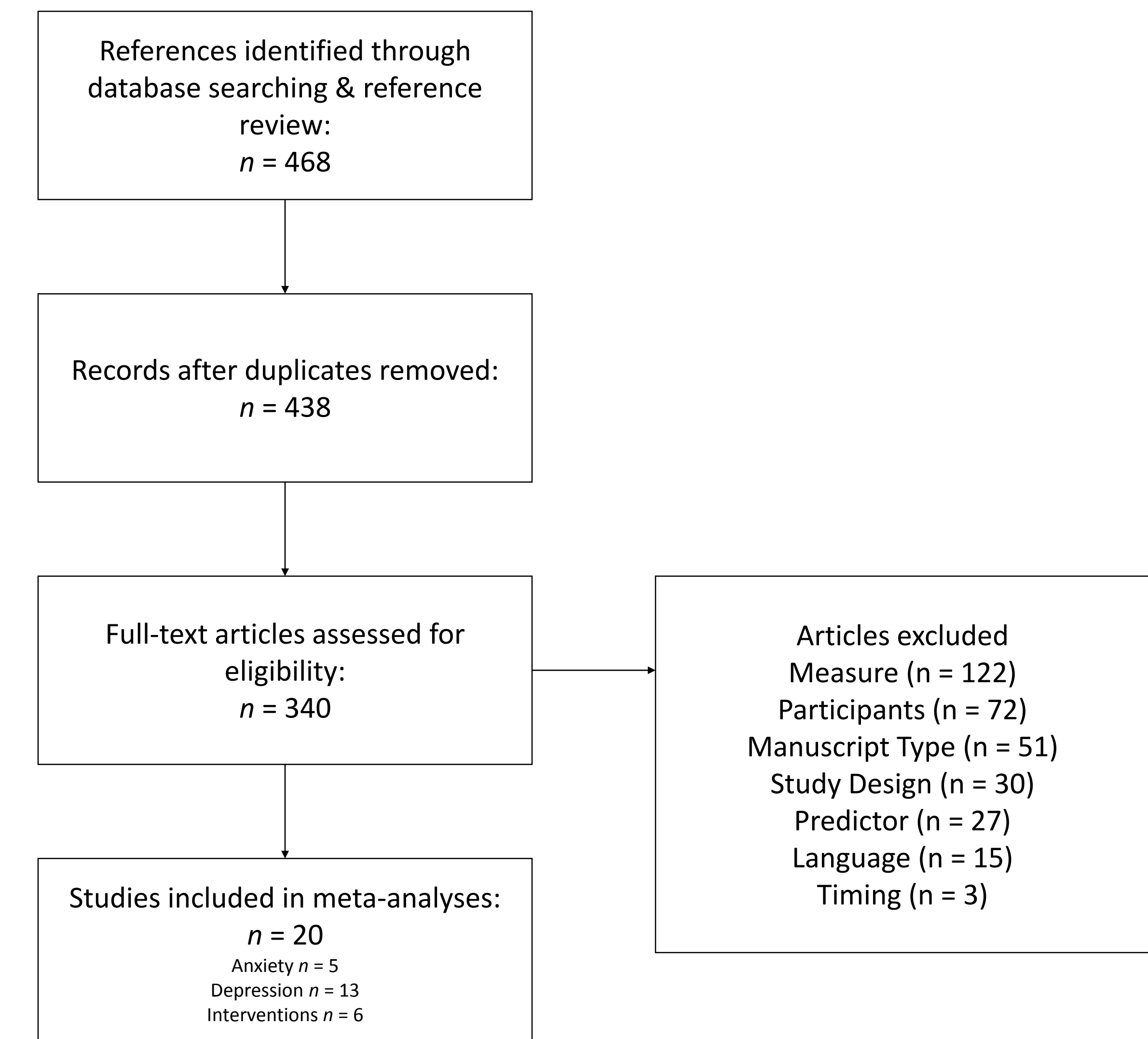
**Table 2.** Random weighted effect sizes from studies assessing interventions as a predictor of mother-infant bonding. Positive controlled effect sizes indicate superior mother-infant bonding in treatment conditions compared to control conditions. Positive uncontrolled effect sizes indicate improvement in mother-infant bonding from pre-treatment to post-treatment in intervention conditions.



**Figure 1.** Funnel plots used to assess publication bias. Asymmetrical distributions indicate potential publication bias.

## METHOD Continued

**Figure 2.** Flow chart depicting identification of included studies.



## DISCUSSION

- These findings provide strong evidence that maternal psychological symptoms are associated with impairments to mother-infant bonding.
- Maternal depressive symptoms are more strongly associated with impaired bonding than symptoms of anxiety.
- Interventions for maternal symptoms also lead to improvements in mother-infant bonding, both over time and as compared to control conditions.
- Clinicians should consider potential impairments to the mother-infant bond among women experiencing perinatal depression and anxiety.
- Clinicians and researchers should assess mother-infant bonding outcomes in addition to psychological symptoms when treating these disorders.