

A Systematic Review of 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.
- A wide range of factors, including maternal demographic characteristics, interpersonal factors, and psychiatric characteristics may be related to mother-infant bonding.
- The goal of this study was to provide a systematic review of the empirical literature assessing predictors of mother-infant bonding.

METHOD

- A comprehensive literature search identified all empirical studies in which mother-infant bonding was assessed using a validated self-report measure during the first 12 months postpartum (see Figure 3).
- Characteristics of studies and data for calculation of effect sizes were coded according to a manual by two raters.
- Agreement ranged from 78-100%; discrepancies were resolved by a third rater.
- Meta-analyses were conducted using random effects models to estimate the overall effect size for all predictors assessed in at least 3 independent studies.
- Effect sizes for continuous predictors were calculated using correlation coefficients (r); effect sizes for categorical predictors were calculated using Cohen's d .
- We also conducted analyses to assess for the presence and influence of outliers, publication bias, and potential moderators of effect size (supplemental analyses available upon request).

RESULTS

Table 1. Random weighted effect sizes from studies assessing continuous predictors of mother-infant bonding.

	<i>k</i>	Range	<i>r</i>	95% CI	<i>Q(df)</i>
Infant Sex	4	-0.04-0.29	0.20**	0.06-0.35	1.94(3)
Maternal Education	3	-0.61-0.53	-0.12	-0.89-0.64	30.05(2)***
Interventions (Tx vs. Control)	6	-0.42-0.89	0.29 [†]	-0.01-0.59	12.01(5)*
Intervention (Pre-Tx vs. Post-Tx)	5	0.20-1.04	0.72***	0.34-1.10	14.73(4)**

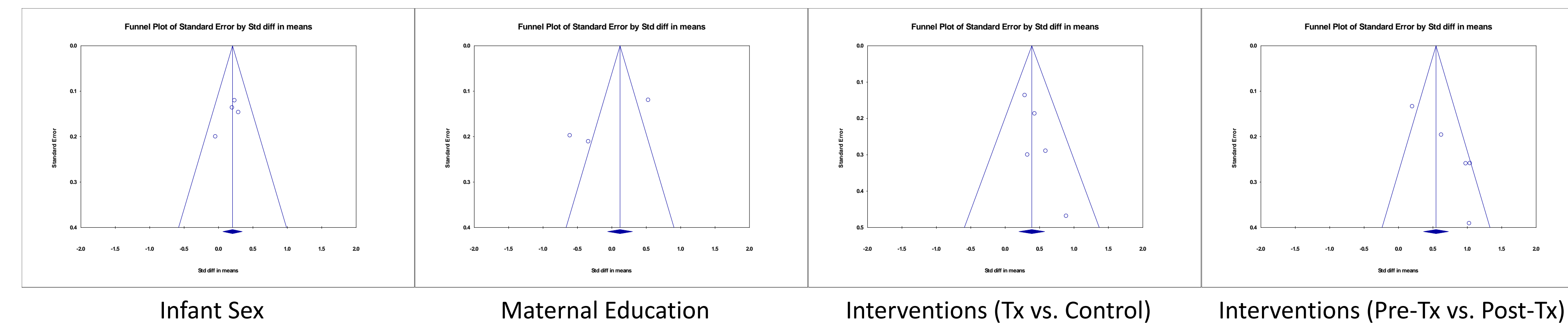


Figure 1. Funnel plots depicting the relationship between study quality and effect size.

Table 2. Random weighted effect sizes from studies assessing categorical predictors of mother-infant bonding.

	<i>k</i>	Range	<i>d</i>	95% CI	<i>Q(df)</i>
Parity	3	-0.02-0.39	0.12	-0.13-0.35	9.78(2)**
Fetal Attachment	4	0.17-0.46	0.35***	0.16-0.51	19.25(3)***
Maternal Anxiety	5	-0.40-(-0.19)	-0.32***	-0.42-(-0.22)	8.83(4)
Maternal Depression	13	-0.71-(-0.20)	-0.41***	-0.48-(-0.34)	83.63(12)***

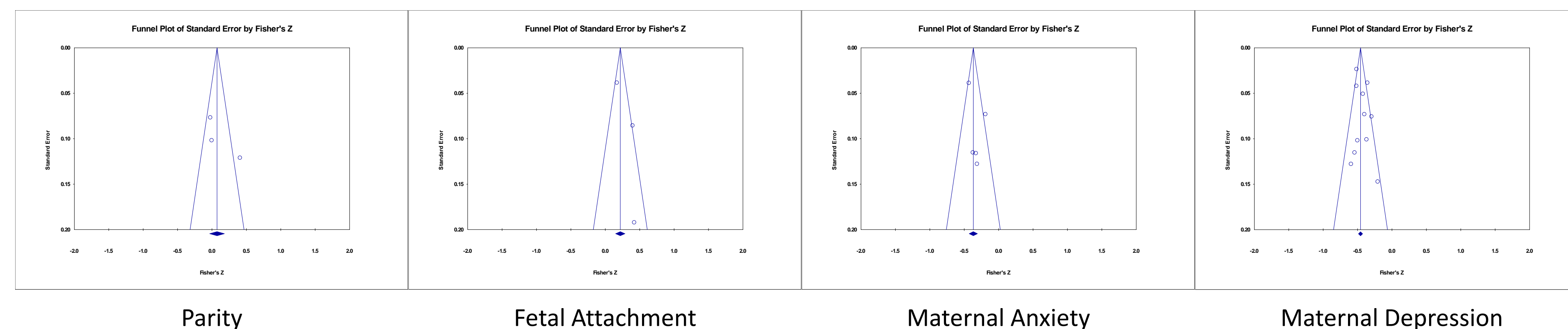
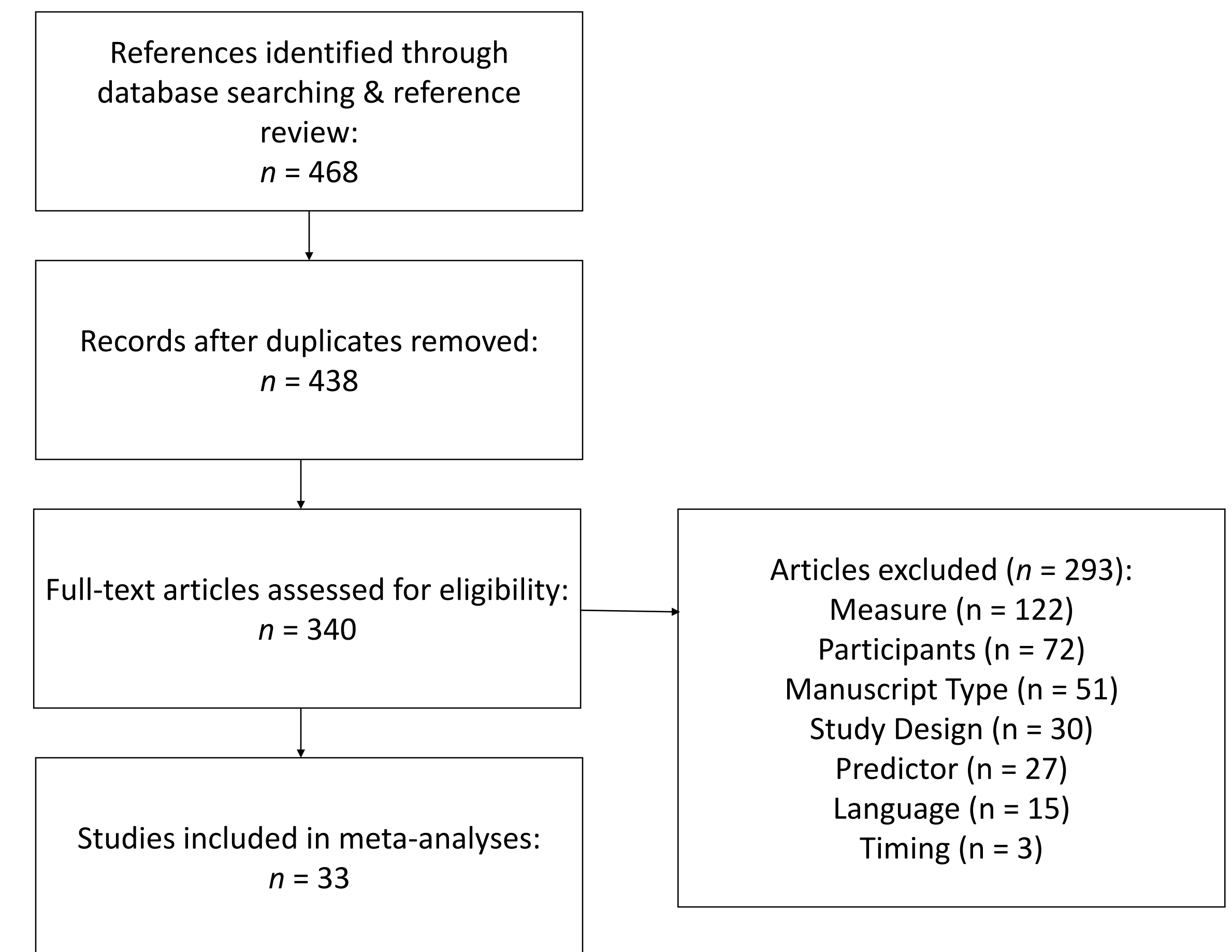


Figure 2. Funnel plots depicting the relationship between study quality and effect size.

METHOD Continued

Figure 3. Flow chart depicting identification of included studies.



DISCUSSION

- We identified a range of predictors of impaired mother-infant bonding, including demographic, interpersonal, and psychiatric characteristics.
- Mothers of female infants are at greater risk for impaired mother-infant bonding.
- Prenatal fetal attachment is a robust predictor of postnatal mother-infant bonding.
- Maternal psychiatric characteristics, including symptoms of depression and anxiety, appear to be the strongest predictors of impaired mother-infant bonding. Interventions targeting maternal psychological symptoms also result in improvements to the mother-infant bond.
- 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 when studying maternal well-being during the postnatal period.