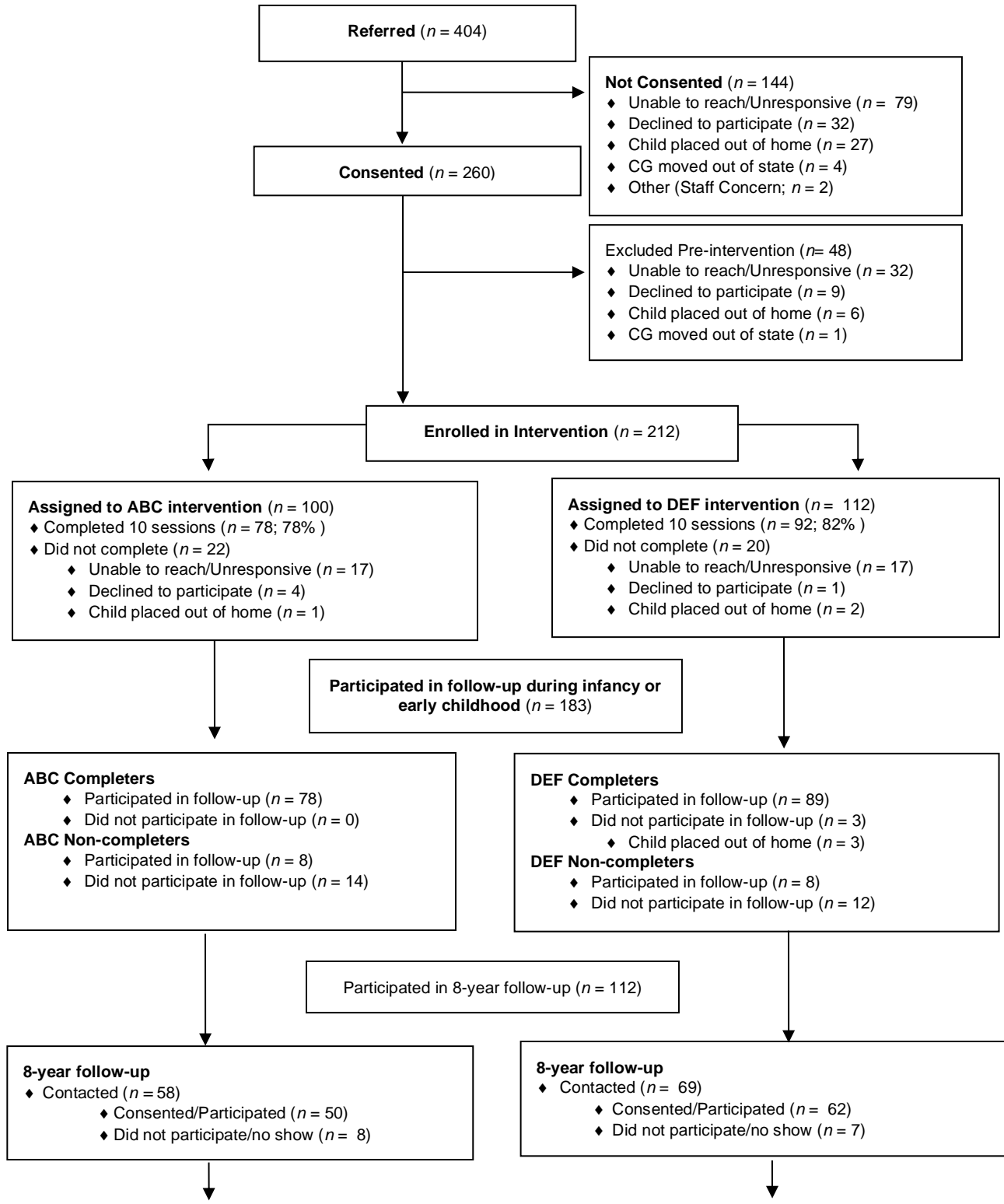
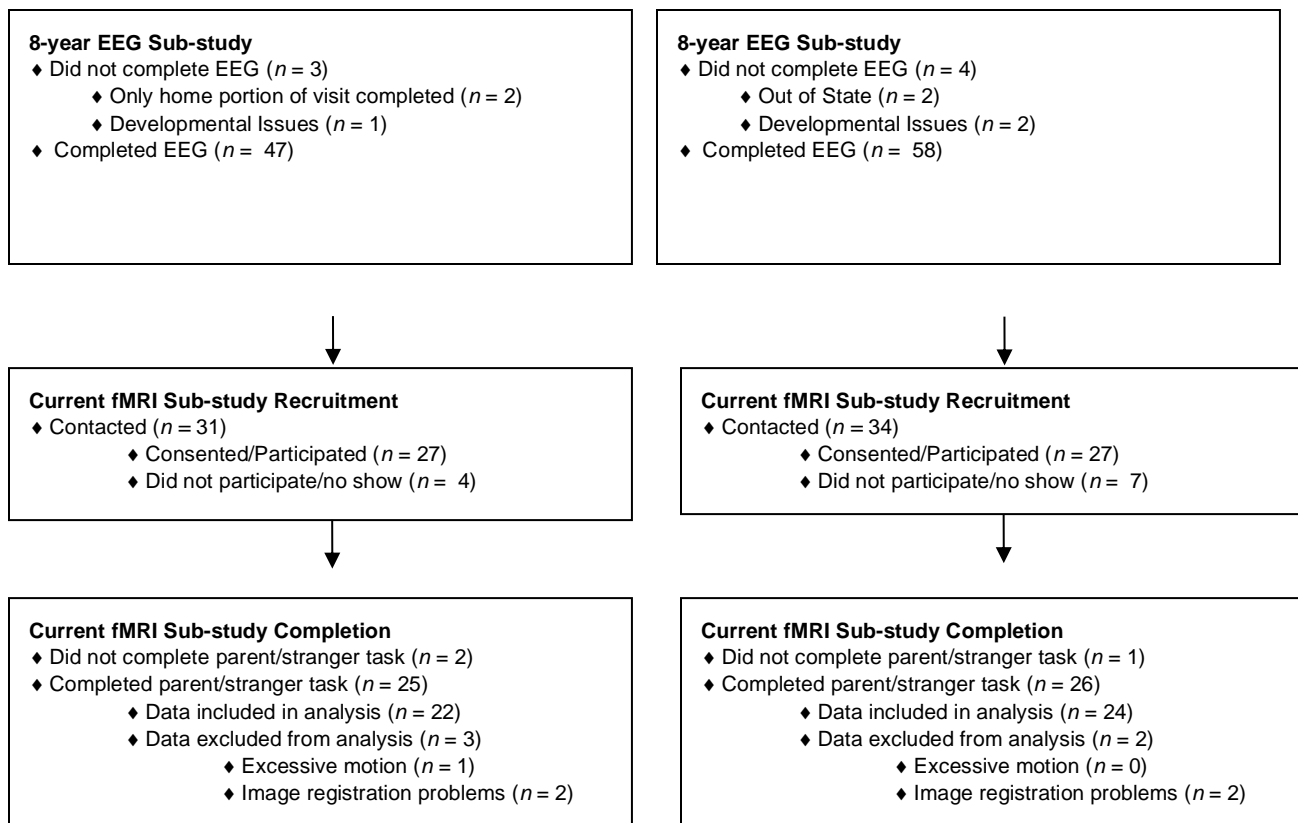


Supplementary Data

**Early Parenting Intervention Effects on
Brain Responses to Maternal Cues Among High-Risk Children**

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Supplementary Figure S1. CONSORT diagram for participants of randomized-clinical trial and present magnetic resonance imaging sub-study.

Supplementary Table S1

Demographics and Questionnaire Scores for Final fMRI Sample

| Variable | ABC (n = 22) | | DEF (n = 24) | | Low Risk (n = 22) | | p-value |
|------------------------------------|--------------|--------|--------------|--------|-------------------|--------|---------|
| | M/n | SD/% | M/n | SD/% | M/n | SD/% | |
| Child sex (male) | 12 | 54.5 | 12 | 50.0 | 11 | 50.0 | .94 |
| Child age at scanning (years) | 10.0 | 0.8 | 9.8 | 1.1 | 10.1 | 0.6 | .55 |
| Annual family income (USD) | 27,606 | 23,561 | 37,443 | 82,113 | 58,042 | 39,705 | .20 |
| In foster care at time of scanning | 1 | 1.5 | 0 | 0.0 | 0 | 0.0 | .35 |
| <u>Child Race/Ethnicity</u> | | | | | | | |
| African American | 14 | 63.6 | 18 | 75.0 | 10 | 45.5 | - |
| Biracial | 6 | 27.3 | 1 | 4.2 | 4 | 18.2 | - |
| Caucasian | 1 | 4.5 | 0 | 0.0 | 7 | 31.8 | - |
| Hispanic | 1 | 4.5 | 5 | 20.8 | 0 | 0.0 | - |
| Declined to answer | 0 | 0.0 | 0 | 0.0 | 1 | 4.5 | - |
| <u>Highest Parental Education</u> | | | | | | | |
| Did not complete high school | 8 | 36.4 | 4 | 16.7 | 0 | 0.0 | - |
| GED | 3 | 13.6 | 4 | 16.7 | 1 | 4.5 | - |
| High school diploma | 8 | 36.4 | 10 | 41.7 | 8 | 36.4 | - |
| Some college | 2 | 9.1 | 4 | 16.7 | 9 | 40.9 | - |
| 4-year college degree | 0 | 0 | 1 | 4.2 | 4 | 18.2 | - |
| Postgraduate degree | 1 | 4.5 | 1 | 4.2 | 0 | 0.0 | - |
| <u>Questionnaire Scores</u> | | | | | | | |
| CBCL Total | 16.5 | 16.2 | 21.6 | 19.4 | 18.6 | 17.1 | .63 |
| CBCL Internalizing | 3.9 | 3.3 | 5.6 | 5.5 | 6.1 | 5.3 | .30 |
| CBCL Externalizing | 7.0 | 8.4 | 7.4 | 7.1 | 4.7 | 5.3 | .39 |
| Security Scale Total | 3.4 | 0.4 | 3.4 | 0.5 | 3.4 | 0.4 | .68 |
| Security Scale Availability | 3.5 | 0.4 | 3.4 | 0.5 | 3.5 | 0.4 | .76 |
| Security Scale Reliance | 3.4 | 0.4 | 3.4 | 0.5 | 3.3 | 0.6 | .28 |
| Security Scale Communication | 3.5 | 0.6 | 3.2 | 0.7 | 3.3 | 0.7 | .77 |

Note. CBCL = Child Behavior Checklist. All *p*-values reflect one-way ANOVAs with the exception of child sex and foster care placement, which were tested with chi-squared.

Supplementary Table S2

Pearson Correlations Among Questionnaire Measures and Task Parameter Estimates

| Measure | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-----|
| 1. CBCL Total | | | | | | | | | |
| 2. CBCL Internalizing | .89** | | | | | | | | |
| 3. CBCL Externalizing | .89** | .63** | | | | | | | |
| 4. Security Scale Total | -.14 | -.17 | -.08 | | | | | | |
| 5. Security Scale Availability | -.01 | -.05 | .03 | .72** | | | | | |
| 6. Security Scale Reliance | -.25* | -.29* | -.15 | .82** | .37** | | | | |
| 7. Security Scale Communication | -.08 | -.12 | -.07 | .83** | .46** | .53** | | | |
| 8. Left Amygdala | -.07 | -.10 | -.07 | .27* | .13 | .16 | .38** | | |
| 9. Right Amygdala | .06 | .06 | -.01 | .23 | .15 | .10 | .30* | .84** | |
| 10. Mother-Stranger Intervention Cluster | -.27* | -.20 | -.25* | .17 | -.02 | .17 | .26 | .35** | .21 |

Note. Amygdala parameter estimates were extracted from the mother only contrast. Mother-Stranger Intervention Cluster parameter estimates were extracted from the significant clusters of brain regions that significantly differentiated between the ABC and DEF intervention groups in the mother minus stranger contrast. CBCL = Child Behavior Checklist. * $p < .05$. ** $p < .005$.

Supplementary Table S3

Causal Mediation Analysis Results

| Outcome | ACME Estimate | 95% CI | | <i>p</i> -value |
|------------------------------|------------------|----------------|----------------|-----------------|
| | | Lower Bound | Upper Bound | |
| CBCL Total | -7.453 | -16.773 | -0.320 | .037 |
| CBCL Internalizing | 1.259 | -3.234 | 0.330 | .130 |
| CBCL Externalizing | -3.601 | -7.840 | -0.270 | .032 |
| Security Scale Total | 0.089 | -0.066 | 0.270 | .250 |
| Security Scale Availability | -0.028 | -0.200 | 0.140 | .740 |
| Security Scale Reliance | 0.104 | -0.058 | 0.290 | .210 |
| Security Scale Communication | 0.229 | -0.004 | 0.530 | .055 |

Note. All mediation models were performed with intervention group assignment as the predictor, intervention-related BOLD reactivity during the parent/stranger task as the mediator, and one outcome variable (listed in table). The mediator consisted of the average beta weights from the mother-stranger contrast cluster that significantly differentiated the ABC and DEF groups. ACME = average causal mediation effect. CBCL = Child Behavior Checklist.