

The Relationship Between Parent-child Interaction And Developmental Domains of Children With Developmental Delay

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Background & Aim

- Children with developmental delay (DD) show difficulties across multiple developmental domains.
- Parent–child interaction is a key environmental factor influencing child development.
- Limited evidence examines how specific interaction qualities relate to developmental domains in children with DD.
- **Aim:** To examine the relationship between parent–child interaction quality and developmental domains in children with developmental delay.



Method

Participants:

- **The inclusion criteria** had developmental delay as assessed by the Bayley III test, being between the ages of 24-36 months
- **Exclusion criteria** were children placed in institutional care, having received any neurological, psychiatric, or orthopedic diagnoses.

Measurements:

- Sociodemographic Form
- BAYLEY III
- ASQ
- PICCOLO



- **Table 1.** Demographic characteristics of participants on admission

N	70
Child age, mo*	30.6±2.9
Child sex, female	31.4%
Prematurity	42.9%
Single child, %	60.0%
Mothers' age, yr*	34.7±4.3
Mothers' education ≥ university	70.0%
Fathers' age, yr*	36.3±4.6
Fathers' education ≥ university	70.0 %
Parent income, MW	
Less than MW	15.7%
MW	38.6%
High than MW	45.7%

Results

Table 2. The correlation Between PICCOLO Domains, ASQ and Bayley Development Subscales

PICCOLO Domains	Bayley Cog.	Bayley RL	Bayley EL	Bayley FM	Bayley GM
Affection	.270*	-.350**	-.009	.250*	.199
Responsiveness	-.30**	-.060	.037	-.025	-.004
Encouragement	-.005	-.056	-.043	-.121	-.055
Teaching	.280* *	.256*	.135	.160	-.053

* Correlation is significant at the $p < 0.05$ level.

The correlation analysis between PICCOLO domains and Bayley scales reveals several significant relationships:

Affection: Shows a significant positive correlation with **Bayley Cognitive** ($r = .270$, $p < .05$) and **Bayley Fine Motor** ($r = .250$, $p < .05$) domains. Interestingly, it is significantly and negatively correlated with **Bayley Receptive Language** ($r = -.350$, $p < .01$).

Responsiveness: Demonstrates a significant negative correlation with the **Bayley Cognitive** domain ($r = -.30$, $p < .01$). No other significant relationships were observed for this domain.

Encouragement: No statistically significant correlations were found between parental encouragement and any of the Bayley developmental scales.

Teaching: This domain shows the strongest positive associations, correlating significantly with **Bayley Cognitive** ($r = .280$, $p < .01$) and **Bayley Receptive Language** ($r = .256$, $p < .05$) scores.

Results



Conclusion

- **Affection** was positively related to cognitive and fine motor development, suggesting that emotionally supportive interactions may facilitate children's engagement and exploratory behaviors. However, its negative association with receptive language implies that emotional warmth alone may not sufficiently support language comprehension without structured verbal input.
- The negative relationship between **responsiveness** and cognitive scores may reflect a compensatory pattern, whereby parents increase responsiveness in response to children's developmental challenges. **Encouragement** was not significantly associated with any Bayley domains, suggesting that its effects may be indirect or more evident in later developmental outcomes not captured by performance-based assessments.
- Finally, **teaching** showed positive associations with cognitive and receptive language development, highlighting the importance of cognitively and linguistically stimulating parental behaviors in early childhood development.

Implication for OT practice

- Occupational therapy interventions should emphasize parent coaching strategies that promote teaching-based interactions, including verbal labeling, modeling, and scaffolding, to support early cognitive and receptive language development.
- While emotional warmth and responsiveness remain important for the interactional climate, therapists should integrate structured, language-rich activities into everyday routines.
- Additionally, high parental responsiveness should be interpreted within the child's developmental context, and encouragement-based strategies may require longer-term or participation-focused outcome measures to capture their impact.



- **Thank you for your attention!**
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