

Associations Between Parent-Infant Attachment, Infant Temperament, and Effortful Control at Three Years of Age

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Background

Effortful Control: The ability to suppress a dominant response and initiate a subdominant response

- Variability in toddlers' capacities for effortful control
- Relatively late pattern of development (beginning at 12 months) allows for influence from earlier-developing constructs ¹
- Parent-infant attachment relationships form in the first 12 months and are determined by parent's responsiveness and ability to meet the infant's needs ²
- Lack of research on father-infant attachment; Limited research suggests this relationship is unique from the mother-infant attachment relationship ³
- Proximity seeking and contact maintenance behaviors characterize a secure attachment; Resistance and avoidance behaviors characterize an insecure attachment ⁴
- Temperamental constructs: Effortful control, negative affect, and surgency/extraversion ⁵
- Different qualities of temperament emerge at different times
- Expression of one aspect of temperament can influence the expression of another ⁶

Hypotheses

Infants displaying higher levels of contact maintenance and proximity seeking behavior and lower levels of avoidant and resistant behavior with both mom and dad at 12 months will have higher capacities for effortful control at 3 years of age.

Infants with lower scores of negative affect and surgency/extraversion at 6 months will have higher capacities for effortful control at 3 years of age than infants with higher scores of negative affect and surgency/extraversion at 6 months.

Methods

Participants: 33 toddlers (age in years, $M = 3.16$, $SD = .14$) and their parents (32 mothers, 32 fathers) participated. See Tables 1 and 2 for demographics.

Procedure:

- 6 Month Visit: Parents completed the Infant Behavior Questionnaire, a parent-report measure of temperament
- 12 & 13 Month Visits: Mother (12 mo.) and father (13 mo.) participated in the strange situation procedure with infant, an observational measure of attachment
- 36 Month Visit: Toddlers completed tasks measuring effortful control (Tasks: Less Is More, Bird/Dragon, Day/Night, Gift Delay)

Results

Bivariate and partial Pearson correlations were conducted to examine the relationships between measures of effortful control and predictor variables (See Tables 3 & 4). Hierarchical multiple and linear regressions were run to assess the abilities of attachment behaviors and temperament constructs to predict effortful control. All regression models were non-significant.

Outcome Variables:

- Effortful Control – Composite Effortful Control Score (Com), Less Is More (LIM), Bird/Dragon (BD), Day/Night (DN), and Gift Delay (GD)

Predictor Variables:

- Attachment Behaviors – Proximity Seeking (PS), Contact Maintenance (CM), Resistance (R), and Avoidance (A)
- Temperament Constructs – Negative Affect and Surgency/Extraversion

Table 1. Demographic Information

Household Income	
\$20,000 - \$29,999	3%
\$40,000 - \$49,999	91.1%
Over \$50,000	87.9%
Child's Gender	
Male	45.5%
Female	54.5%

Table 2. Demographic Information

Race	Mother	Father
Caucasian	94%	90.9%
African American	3%	6.1%
Other	3%	3%
Ethnicity		
Hispanic	15.6%	6.3%
Other	84.4%	93.7%
Highest Education		
High School	3%	6.3%
Some College	15.2%	15.6%
4 Year College	33.3%	46.9%
Advanced Degree	48.5%	31.3%

Table 3. Correlations Between Attachment Behaviors and Effortful Control

	Father				Mother			
	PS	CM	R	A	PS	CM	R	A
Com	.25+	.22	.28+	.065	.006	-.18	.22	.028
LIM	.35*	.29+	.13	-.079	.014	-.055	.35*	0.13
DN	.13	.20	.012	-.014	.14	-.24+	.30*	.18
BD	-.011	-.029	.13	.032	.029	-.15	-.078	-0.0090
GD	.042	.0040	.28+	.23+	-.14	-.17	.035	-0.11

* Significant at $p \leq .05$
+ Marginally significant $p \leq .11$

Table 4. Correlations Between Temperament Constructs and Effortful Control

	Negative Affect	Surgency/Extraversion
Com	-.22+	-.20
LIM	-.21	-.12
DN	-.19	-.12
BD	-.23+	-.12
GD	.014	-.11

+ Marginally significant $p \leq .11$

Conclusion

Proximity seeking behavior with father was positively moderately correlated with effortful control

- Secure attachment is characterized by high levels of proximity seeking and contact maintenance behaviors with caregiver
- Points to possible correlation between effortful control and secure attachment that could be better examined with a large sample size

Resistance behavior with mother was positively moderately correlated with effortful control

- Resistance behavior refers to the duration, frequency, and intensity of resistance to parent
- Children often reject toys as a redirection of resistance (Ainsworth, 1978)
- Rejecting toys (choosing small pile in less is more task, not peeking during gift delay task) could resemble effortful control and influence perceived capacities to inhibit a response

The father-infant attachment relationship is unique from the mother-infant attachment relationship

- Different attachment behaviors with mother and with father were associated with effortful control

These correlations highlight the importance of the father-infant attachment relationship. Fathers should be warm and responsive to infants to promote healthy development in later childhood.

References

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