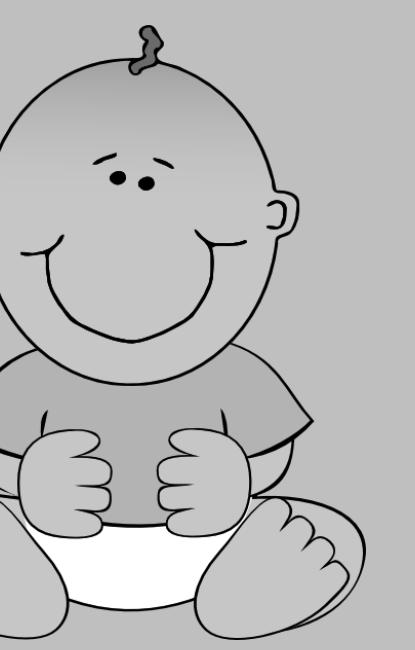


# The Influence of Infant Emotionality and Regulation at 10 Months of Age on Adaptive Behavior at 14 Months of Age

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## Background & Hypotheses

- Temperament in infancy (positive affect [PA], negative affect [NA], and orienting/regulation [O/R])<sup>1</sup>, makes contributions to developmental outcomes in children.<sup>2</sup> For example:
  - Difficult temperament in infancy (i.e., higher NA and lower O/R) has been linked to lower social competence in toddlers.<sup>3</sup>
  - Infants with higher PA and O/R at 6 months demonstrated better receptive language at 12 months.<sup>4</sup>
  - Inhibited temperament in infancy (i.e., unreactive and low affect) has been negatively correlated with pro-social behavior (e.g., empathy in unfamiliar contexts) in toddlers at 24 months.<sup>5</sup>
- Although links between early temperament and some outcomes have been examined, studies examining links between early temperament attributes and early adaptive behavior are sparse.
- Adaptive behaviors include communication, socialization, motor skills, and daily living skills, which influence development and outcomes in children.
- To address the gap in the literature regarding connections between early temperament and adaptive behavior, the present study examines the contribution of temperament at 10 months to adaptive behavior at 14 months.

- After accounting for cumulative risk, it is expected that infant PA and O/R will be positively associated with adaptive behavior. Infant NA was expected to predict lower adaptive behavior.
- Exploratory analyses were completed to examine the relationship between each domain of temperament (i.e., PA, O/R, and NA) and the individual dimensions of adaptive behaviors.

## Participants

- 85 families participating in a larger longitudinal study; 61 mother-infant pairs (57.1% female infants) completed the 14 month visit.
- Mothers were predominantly Caucasian (75.6%), Hispanic (11.1%), or African American (6.3%), ranging in age from 18-42 ( $M = 29.18$ ,  $SD = 6.49$ ).

## Measures & Procedure

- When infants were 4 months of age, mothers completed demographic questionnaires and the Structured Clinical Interview for the DSM-IV-TR (SCID)<sup>7</sup>.
  - Cumulative Risk was calculated based on maternal age, maternal education, income-to-needs ratio, and maternal depression.
- The Infant Behavior Questionnaire Revised (IBQ-R<sup>1</sup>), a comprehensive measure of infant temperament, was completed by mothers when children were 10 months old.
- At age 14 months, the Vineland Adaptive Behavior Scales, Second Edition,<sup>8</sup> interview format, was administered to mothers.
  - Communication (Comm)*: Receptive and expressive language skills
  - Daily Living Skills (DLS)*: Ability to carry out self-help tasks (e.g., eating and drinking), domestic tasks (e.g., cleaning up) and community interactions (e.g., understanding the function of a telephone)
  - Socialization (Social)*: Interpersonal relationships, play and leisure time, and coping skills (e.g., handling changes in routine)
  - Motor Skills (Motor)*: Gross and fine motor abilities

## Results

Table 1: Hierarchical Multiple Regression Analyses Predicting Adaptive Behavior from Temperament

Predictor	Std. Beta	R <sup>2</sup> Change
Step 1		
Cumulative Risk	-.141	.020
Step 2*		
Positive Affect	.464	.215**
Orienting/Regulation	.319	.101*
Negative Affect	.101	.010

Note: Each predictor in Step 2 was run individually in a separate analysis to minimize problems with multi-collinearity and suppression effects.

\*\*p<.01; \*p<.05

- PA and O/R at 10 months of age significantly predicted overall adaptive behavior 4 months later, and also demonstrated associations in the expected direction in several of the exploratory analyses.

## Results

Table 2: Hierarchical Multiple Regression Analyses of Adaptive Behavior Dimensions

Dependent	Predictor	Std. Beta	R <sup>2</sup> Change
Comm	Step 1		
	Cumulative Risk	-.157	.025
	Step 2*		
	Positive Affect	.367	.135**
	Orienting/Regulation	.373	.139*
	Negative Affect	.088	.008
DLS	Step 1		
	Cumulative Risk	.075	.006
	Step 2*		
	Positive Affect	.546	.298**
	Orienting/Regulation	.367	.134**
	Negative Affect	.266	.069+
Social	Step 1		
	Cumulative Risk	-.227	.052+
	Step 2*		
	Positive Affect	.261	.068+
	Orienting/Regulation	.074	.005
	Negative Affect	-.137	.018
Motor	Step 1		
	Cumulative Risk	-.155	.024
	Step 2*		
	Positive Affect	.343	.118*
	Orienting/Regulation	.237	.056+
	Negative Affect	.084	.007

Note: Each predictor in Step 2 was run individually in a separate analysis to minimize problems with multi-collinearity and suppression effects.

\*\*p<.01; \*p<.05; +p<.10

- NA did not significantly predict overall adaptive behavior at 14 months of age or any of the adaptive behavior domains.
- Interestingly, relationships between NA and three of the adaptive behavior domains were in an unexpected direction.

## Discussion

- PA and O/R seem to be salient contributors to developing adaptive skills in early toddlerhood.
- Low PA and O/R might be risk factors for delayed development of adaptive behavior skills in young children.
- Infants expressing more PA may encourage more adult attention and have more opportunities to learn from their environment.
- Infants with higher O/R may be able to allocate more resources to learning opportunities during daily caregiving tasks.
- Given associations between adaptive behavior and cognitive functioning, low PA and O/R coupled with lower adaptive skills in infancy could be a profile indicating the possibility of cognitive delay.
- Understanding associations between early temperament characteristics and subsequent development may aid in identifying children for early intervention services.
- Future studies could utilize a larger sample and examine interaction effects between temperament and cumulative risk factors (e.g., maternal depression, teen parenting).

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