



Affect Attunement during Early Mother-Infant Interactions: How Specific Intensities Predict the Stability of Infants' Coordinated Joint Attention Skills

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THEORETICAL FRAMEWORK

Sharing emotions with others (2 mo.+)
Affect Attunement (AA)

↓

Sharing attention with others (9-12 mo.+)
Coordinated Joint Attention (CJA)

↓

Sharing thoughts with others (12 mo.+)
Language

RESEARCH QUESTION

Does AA at 6 and 9 months predict later CJA at 12 months when CJA is stable & robust? Further, does the intensity of AA matter?

METHODS

- 30 participants: 15 mother-infant dyads
- Mothers: Caucasian; educated (M=16 yrs, SD =1.88)
- Infants: Typically developing; exposed to English
- Object-mediated free play at 6, 9, & 12 months, captured by split-screen digitized video

MEASURES

AA (6 & 9 mo.) coding system detailed below
Best viewable consecutive 5-minute selection
Continuous microanalytic coding (1/4-sec. precision)
Mutually-exclusive & exhaustive codes for 3 phases
CJA (12 mo.): **Average duration of CJA episodes**
Engagement State Coding (10 minutes); K = .79 (Bakeman & Adamson 1984; Adamson et al. 2004; Carpenter et al. 1998)

INTRODUCTION

Coordinated joint attention (CJA) represents intersubjectivity and is often considered the infrastructure for language development^{1,2}. Theorists have proposed a predictive relationship between emotion sharing/affect attunement (AA) and CJA^{3,4,5,6,7}. This study examines the putative nature of this relationship: Does the intensity of early caregiver-infant AA, before the emergence of CJA, predict the stability of later CJA skills?

THEORETICAL IMPLICATIONS

How does CJA develop? Is it innate, or can it be influenced by the caregiving environment? A predictive relationship between AA and CJA would support the idea that CJA can be supported through caregiving.



Person-to-Person (2 mo.+)



Object-only (6 mo.+)



CJA is the integration of these 2 attentions simultaneously

Coordinated Joint Attention (emerges ~9 mo.; robust ~12 mo.)

Does AA during object-mediated interactions, before CJA, support infants' ability to learn CJA/intersubjectivity?



Supported Joint Engagement (6-9 mo.)

AFFECT ATTUNEMENT CODING

Phase 1: Mutual Engagement (ME-time); K = .83
Engagement State Coding^{1,8} collapsed to identify ME-time
ME-time = Persons, Supported Joint, Coordinated Joint
Not ME-time = Objects, Onlooking, Unengaged

Phase 2: Infant Affect during ME-time; K = .85
Codes: Neutral; & Low, Moderate, & High Positive Affect
Multi-media coding scale calibrated across all infants

Phase 3: Maternal Affect during ME-time; K = .77
Codes: Neutral; & Low, Moderate, & High Positive Affect
Multi-media coding scale calibrated across all mothers
Ensured accurate affect matching within dyads as well

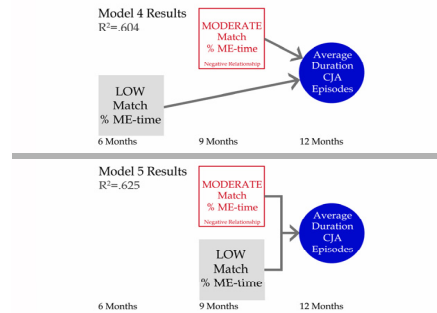
AFFECT ATTUNEMENT MEASURES

- Affect intensity matches defined as infant & mother having identical codes at the same time or up to 2-sec. afterwards
- Total time matched at each intensity / ME-time = **% of ME-time spent matching at each intensity** (neutral; low, moderate, & high positive intensity)

RESULTS

Multiple Regression Model Building Table:
Intensity matches (%ME-time) predicting CJA (12 mo.)

Model	Low-Intensity Affect Matching 6 mo.		Low-Intensity Affect Matching 9 mo.		Moderate-Int. Affect Matching 9 mo.		R ²
	B	SE B	B	SE B	B	SE B	
1	126.91*	42.90					.402
2			124.39	76.55			.411
3					-185.06**	59.78	.422
4	91.67*	39.06			-136.60*	55.34	.604
5			136.71*	53.63	-191.75**	50.20	.625



INTERPRETATION

Model 4: On average, ME-time spent **Low Matching** at 6 months (positive predictor) & ME-time spent **Moderate Matching** at 9 months (negative predictor) each contributed uniquely to the stability of CJA at 12 months.

Model 5: On average, the **combined effects** of ME-time spent **Low Matching** at 9 months (positive predictor) and **Moderate matching** at 9 months (negative predictor) were associated with the stability of CJA at 12 months.

DISCUSSION

Findings both support and extend the theory regarding a predictive relationship between AA and intersubjectivity. Shared *low-intensity* emotional states, during caregiver-infant object-mediated interactions, support the development of attention before and during the emergence of CJA. In contrast, *moderate-intensity* AA may impede CJA. Caregiver-infant object-mediated interactions at 6 and 9 months are rich in information available for processing (e.g. multi-modal motherese⁹, caregiver's contingent comments¹⁰, visual gaze referencing, referential gestures¹¹, and shared emotional experiences⁸). Thus, pleasurable well-modulated low-intensity AA may enhance infants' processing capacities for learning intersubjectivity. The function of early AA may shift from understanding others' emotions to understanding others' attentions during object-mediated mutual engagement.

REFINED THEORETICAL FRAMEWORK

