

Attachment in institutionally-reared children and caregivers' narrative competence: Child's cardiac activity during interactions with the caregiver

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AIMS

This study aims to examine the relations among institutionalized children's attachment disordered behaviors, caregiver's narrative competence, and child's cardiac activity during 3 interaction tasks with the institutional caregiver: Strange Situation Procedure (SSP; Ainsworth et al., 1978); Play Interaction and Caregiving Interaction.

PARTICIPANTS

N = 40 institutionally-reared infants and their caregivers from 12 Portuguese institutions

	Mean (SD)	Min-Max
Infants		
Gender	19 (47.5%) ♀ 21 (52.5%) ♂	
Age (Months)	19.90 (6.66)	11-30
Age at Admission (Months)	8.35 (7.77)	0-24
Length of Institutionalization (Months)	11.53 (4.58)	4-29

MEASURES

- Bio-Behavior Attachment Multimedia System - BioBeAMS 2.0 (Soares, Dias, Rangel, Martins & Cunha, 2008)
- Strange Situation Procedure (SSP; Ainsworth et al., 1978): secure, insecure-avoidant and insecure-resistant attachment behaviours
- Rating of Infant-Stranger Engagement (RISE; Lyons-Ruth, Bureau, Riley & Atlas-Corbett, 2009): indiscriminate attachment behaviour
- Disturbances of Attachment Interview (DAI; Smyke & Zeanah, 1999): inhibited attachment behaviour; indiscriminate attachment behaviour; and secure base distortions
- Caregivers' Narratives Protocol: autobiographic, play interaction and caregiving narratives (Henriques, Soares, Baptista & Sousa, 2007)
- Narrative Matrix Analysis System (Gonçalves, Henriques et al., 2004)
- Infant Characteristics Questionnaire (ICQ; Bates, Freeland & Lounsbury, 1979): fussy/difficult temperament dimension
- Bayley Scales of Infant Development (Bayley III; Bayley, 2005): cognitive, language, and motor development.

RESULTS

Caregivers' narrative competence and child's cognitive and language development - Interaction Tasks (Spearman's Rho)

		Bayley Cognitive (Percentile)	Bayley Language (Percentile)
Caregiving Task	Narrative Structure	-.02	-.17
	Narrative Process	-.33	-.55 *
Play Task	Narrative Structure	-.015	.23
	Narrative Process	-.29	-.09

* $p < .05$

Caregiver's narrative competence and child's temperament

		ICQ Difficult	N	M (S.D.)	Z
Caregiving Task	Structure	Low	12	32.33 (11.75)	-1.459
		High	9	38.22 (4.94)	
	Process	Low	12	7.50 (6.83)	-1.348
		High	9	12.67 (8.94)	
Play Task	Structure	Low	13	45.85 (7.37)	-2.195*
		High	15	38.40 (8.36)	
	Process	Low	13	20.62 (7.23)	-1.090

* $p < .05$

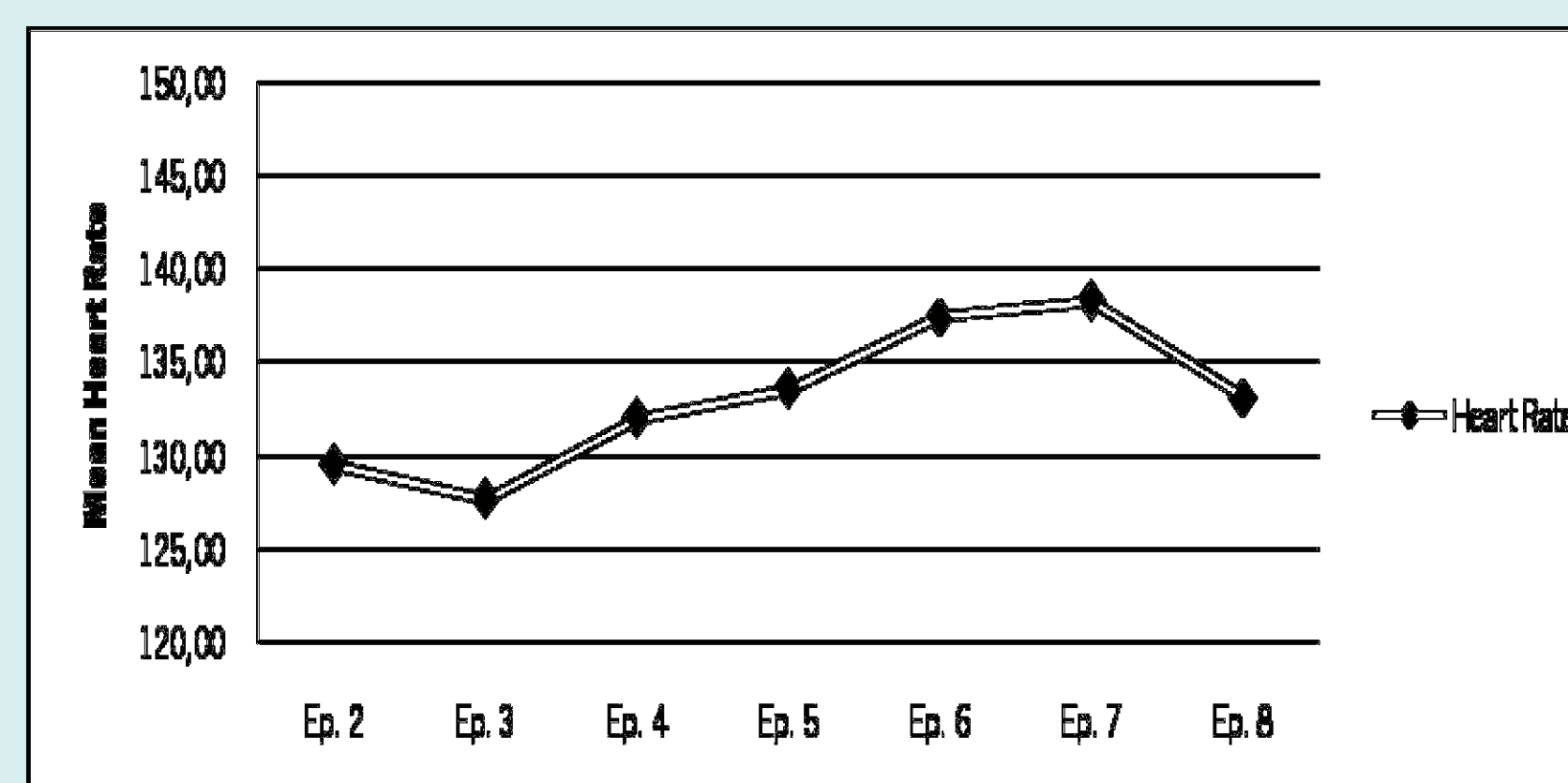
Attachment disordered behaviors (DAI) and cardiac activity (mean HR - baseline) during Interaction Tasks (Partial correlation, controlling for age)

		HR - Baseline
Caregiving Task	Non-attached / inhibited	-.07
	Indiscriminate Behavior	.26
	Secure-Base Distortions	-.11
Play Task	Non-attached / inhibited	-.13
	Indiscriminate Behavior	.37
	Secure-Base Distortions	.06

Indiscriminate Behavior (RISE) and cardiac activity (mean HR) during Narrative tasks

		HR - Baseline
Narrative Task	RISE	.09
Play Task	RISE	-.03

Children's Cardiac Activity during the SSP



Attachment disordered behaviors (DAI) and cardiac activity (Average HR - baseline) during SSP Episodes (Partial correlation, contr. for age)

	Non-attached / inhibited	Indiscriminate Behavior	Secure-Base Distortions
Episode 3 (A)	.10	.04	.06
Episode 3 (B)	.06	-.11	.02
Episode 3 (C)	.17	-.24	.11
Episode 4	.30	-.29	.43 *
Episode 5	.11	-.35 +	.31
Episode 6	-.02	-.32	.38*
Episode 7	.13	-.33	.26
Episode 8	.12	-.21	.16

+ $p < .10$; * $p < .05$

Indiscriminate behavior (RISE) and cardiac activity (Average HR - baseline) during SSP Episodes (partial correlation, contr. For age)

	RISE
Episode 3 (A)	-.05
Episode 3 (B)	-.10
Episode 3 (C)	-.26
Episode 4	-.57 *
Episode 5	-.18
Episode 6	-.20
Episode 7	-.37 +
Episode 8	.07

+ $p < .10$; * $p < .05$

DISCUSSION

-Caregivers' narrative competence seems relevant to the quality of interaction with institutionalized children:

- The negative association between caregivers' narrative complexity and children's language level suggests a higher stimulation from the caregivers when verbally interacting with these children in a structured task;
- Children with less difficult temperament tend to have caregivers who tell more structured narratives; that may promote children's narrative development.

-Indiscriminate Behavior (DAI & RISE) is related to cardiac activity during the SSP:

- Decreased HR during interaction with stranger (episodes 4 and 7) suggests lower activation/stress in the presence of the stranger, supporting the indiscriminate orientation from the child towards different adults.

-Results highlight the need to consider the ethical implications of the relational quality of institutionalized care in the development of such a vulnerable group of children.