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Behavioural and Affective Precursors to Disorganized Attachment in the Still-Face Procedure at 4-months

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INTRODUCTION

> **Disorganized attachment** is seen as reflecting an infant's **lack of strategy** for coping with the stress of the Strange Situation procedure (SSP; Ainsworth et al., 1978) and has been associated with:

- Concurrent deficits in emotion regulation, as reflected in physiological stress indices (e.g., Hertsgaard et al., 1995).
- Later psychopathology (e.g., aggression and dissociation) in childhood and adolescence (van IJzendoorn et al., 1999).

> The SSP, administered with 12- to 18-month-old infants, typically is the 1st assessment of the attachment relationship.

> Affective and behavioural **precursors** to disorganized attachment have yet to be elucidated.

> The **Still-Face Procedure** (SFP; Tronick et al., 1978) offers an age-appropriate procedure to explore the **emerging** attachment relationship.

- A single study by Koós & Gergely (2001) provided evidence that precursors to disorganized attachment can be observed at 6.5 months in the SFP.

- The present study sought to replicate this initial study.

PRESENT STUDY

> We explored whether disorganization in the SSP at 13-months could be predicted from infant affect and behaviour in the SFP at 4-months.

> We hypothesized that infants in disorganized relationships would have the most difficulty regulating their affect and behaviour in the SFP.

> Infants in disorganized relationships were expected to display greater **negativity** (e.g., crying, negative vocalizations, stress indicators such as spitting up) throughout the SFP, compared to those in organized relationships.

METHOD

PARTICIPANTS

> Community sample of $N = 59$ adult mothers and their first-born infants.

> Mean age of mothers was 30.08. Majority of mothers were married (75%) and had completed an average of 14.52 years of education. Average household income was \$50,000 - \$59,999.

MEASURES

> **Still-Face Procedure (SFP; Tronick et al., 1978)**: Consists of 3 60-second periods of face-to-face interaction without touch.

- **Period 1**: Normal face-to-face interaction
- **Period 2**: Still-face episode (mother asked to "act like a statue" and adopt a neutral expression)
- **Period 3**: Normal face-to-face interaction
 - The **Infant Regulatory Scoring System** (IRSS, Weinberg & Tronick, 1990) was used to code aspects of infant behaviour during all periods.
 - Interrater reliability on 23 cases ranged from .75 - .99 (ICC).

> **Strange Situation Procedure (SSP; Ainsworth et al., 1978; Main & Solomon, 1990)**

- Standard laboratory assessment of the attachment relationship
- Sufficient interrater reliability found for disorganized classification ($Kappa = .83, p < .001$), and level of disorganization ($ICC = .96$).

PROCEDURE

> Mothers and infants participated in the SFP during a 2-hour home visit at 4-months.

> Dyads visited university laboratory at 13-months and participated in the SSP.

> Coding was later completed by independent coders upon review of videotaped interaction.

RESULTS

> **Descriptive Statistics**: 22 dyads (33% of the sample) were assigned a disorganized classification. Average score for disorganization (1-9) was 3.73 ($SD = 2.08$).

> **"Still-Face Effect"**: The three periods of the SFP successfully elicited the "SF effect" (reduced smiling and increase gaze aversion in Period 2).

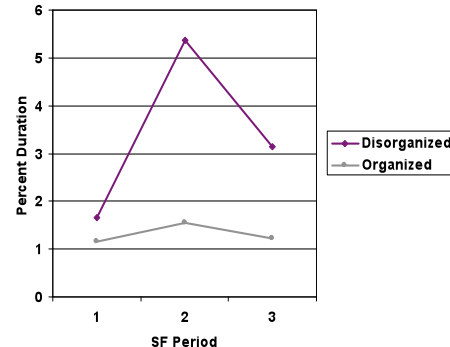
> **Disorganization & SFP Behaviour**:

Disorganization was associated with:

1) **Distancing/Escape behaviour** (e.g., arching, turning away) in Period 2, $r = .28, p < .05$, and Period 3, $r = .30, p < .05$.

Greater increase in **distancing/escape behaviour** across the SFP vs. those in organized relationships, $F(2, 114) = 2.67, p = .07$ (see Figure 1).

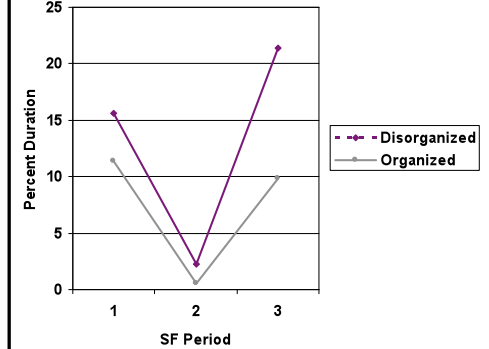
Figure 1. Distancing/Escape Behaviour in the SFP by Attachment Status at 13-months.



2) **Increased smiling** across the SFP vs. those in organized relationships, $F(1, 57) = 4.39, p < .05$ (see Figure 2).

A smaller **latency to smile** in Period 3 ($M = 20.80, SD = 20.98$), $F(1, 56) = 4.66, p < .05$, vs. those in organized relationships ($M = 4.93, SD = 24.98$).

Figure 2. Smiling during the SFP by Attachment Status at 13-months.



- Contrary to prediction, disorganization was **not** associated with increased **infant negativity** in the SFP (e.g., crying, negative vocalizations).

CONCLUSIONS

> The present results suggest that behavioural and affective precursors to disorganization can be identified in the SFP at 4-months.

> Disorganized attachment was differentially associated with greater (1) **distancing/escape behaviour** and (2) **smiling** in the SFP, but **not** with increased negative affect.

> Results are consistent with Koós & Gergely (2001) who found disorganization was associated with increased positive affect across the SFP.

> The SFP appears to be a fruitful avenue for evaluating the mechanisms of **emerging** attachment relationships, during the period of **Attachment-in-the-Making**.

> The combination of **distancing/escape behaviour** and **smiling** at 4-months may be early expressions of the contradictory behaviours (e.g., proximity-seeking and avoidance) expressed by infants in the SSP by the end of the first year.

> It is hoped that identifying such precursors will be beneficial for **early intervention** to be implemented for dyads at risk for disorganization.