

Continuity and Change from Infancy to Toddlerhood in Measures of Attachment and Maternal Behavior

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Supported by grants from Health Canada and the Social Sciences and Humanities Research Council of Canada

ABSTRACT

This presentation introduces the interesting-but-scary (IBS) paradigm, an assessment of the attachment relationship and quality of interactions of mothers and their 24-month-olds. In this study, the IBS was used in conjunction with home observations and the Strange Situation to examine the stability and interrelations of adolescent mother-infant interaction and their relationship over the 12- to 24-month period. The attachment relationship, maternal sensitivity and atypical maternal behavior were assessed on the basis of interaction observed in the new paradigm. There was substantial concordance between attachment assessed at 12-months in the Strange Situation and in the IBS at 24-months. Further, ratings of maternal sensitivity in the IBS correlated significantly with those made in the home at 12- and 24-months. Atypical maternal behavior in the IBS was assessed in play at 12-months. Attachment security in the IBS was associated with higher levels of maternal sensitivity, and attachment disorganization in the IBS was related to maternal disrupted classification. The interesting-but-scary paradigm promises to be a powerful tool for assessing attachment at 2-years.

INTRODUCTION

Assessing the Attachment Relationship in Toddlerhood

The Ainsworth Strange Situation (Ainsworth, Blehar, Waters & Wall, 1978) provides a powerful context for assessing the attachment relationships of 12- to 18-month olds, creating a mildly stressful situation that activates the infant's attachment system while allowing the caregiver to act as a secure base for exploration.

Although this paradigm has been a worthy gold standard for the assessment of attachment in infancy, its design is unsuited for older children. Beyond infancy, children may not experience the level of stress necessary to activate the attachment system in a developmentally appropriate manner—required to allow a meaningful classification. The ability to assess attachment at a variety of ages is especially critical to the study of at-risk samples (e.g., adolescent mothers) where relationships are more likely to change substantially over a relatively brief lifespan.

Further, the Strange Situation, by design, focuses primarily on the infant; methodological constraints of the mother's behaviour make it inoperative for the assessment of the quality of naturalistic interaction between mother and infant. Such a focus is especially important during the transition to toddlerhood when, even there, so that in infancy, the emerging partnership between the mother and child is critically dependent upon a dynamic balance of the child's nascent autonomy and use of the mother as a secure base.

The Interesting-but-Scary Paradigm (IBS): A Description

The IBS involves a reunion following a 10-minute separation, a 5-minute free-play period during which the mother and toddler are free to interact with an array of toys, and, most importantly, a Strange Situation introduction of a potentially threatening remote-controlled toy spider. Thus, all of circumstances activates both the exploratory and attachment fear systems while allowing mothers to interact in an unconstrained fashion with their children.

The interesting-but-scary Paradigm: An illustration



RESEARCH GOALS

- 1) To introduce the IBS paradigm as a developmentally appropriate parallel to the Strange Situation for assessing quality of attachment and maternal behaviour at 24-months.
- 2) To examine the concordance between toddler and mother interactive behavior across time and context.

METHOD

Participants

- Included 64 mother-toddler dyads who were part of a larger longitudinal study of mother-infant attachment. Adolescent mothers were recruited from two city hospitals shortly after the birth of their infant.
- The age of mothers ranged from 15.9 to 19.9 years at the birth of their infants ($M = 18.4$). The majority mothers were single, on social assistance, and had completed an average of 11 years of education.

Measures

Previous Assessments:

Strange Situation (Ainsworth, Blehar, Waters, & Wall, 1978)

Mother-infant attachment relationships were assessed at 12-months using the Strange Situation procedure and were classified as Secure, Avoidant, Ambivalent, or Disorganized by coders who had completed training and had achieved reliability for both organized and disorganized attachment classifications.

Maternal Behavior Coding (MBCS; Pederson, Morin, & Bento, 1999)

The MBCS consists of 90 items describing maternal behaviors. Coders progressively sorted these items into nine piles from 1 (most unlike the mother's behavior) to 9 (most like the mother's behavior). The MBCS was completed by trained observers following a 2-hour semi-structured home visit when infants were 12- and 24-month old.

IBS Assessments:

Attachment Classifications

Using a modified version of the Strange Situation classification system, mother-toddler attachment relationships were categorized as Secure, Avoidant, Ambivalent, and Disorganized; inter-coder reliability was established with a multi-experimenter Strange Situation coder.

MBCS Process

Using an 81-item version of the MBCS (Pederson et al., 1999), maternal behavior was sorted into 9 piles from 1 (most unlike the mother) to 9 (most like the mother). Maternal items were compared to that of a prototypically sensitive mother to yield an overall sensitivity score.

Atypical Maternal Behavior Instrument for Attachment and Classification (AMBIANCE; Bronfman, Parsons & Lyons-Ruth, 2000)

Maternal affective communication errors, role boundary confusion, maternal-oriented intrusiveness/negativity, and withdrawal behaviors were coded and rated on a 7-point scale. From these ratings, classifications of "disrupted" or "not disrupted" were assigned.

RESULTS

Relation of Behavior in the IBS Paradigm to Behavior in Other Contexts at 12- and 24-months

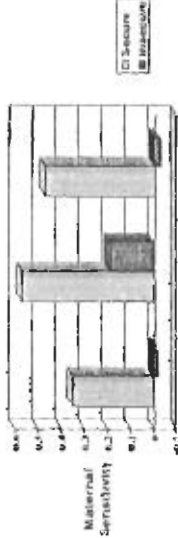
- Maternal sensitivity, as measured in the IBS, was found to correlate significantly with maternal sensitivity measured in the home, both at 12-months ($r = .31$) and 24-months ($r = .45$).
- AMBIANCE classifications, as measured in the IBS, were significantly associated with those observed at 12-months during a laboratory Strange Situation play session ($r = .38$, $p < .05$). Concordance of the not-disrupted classification from 12-24 months was 67%, and concordance of the disrupted classification from 12-24 months was 57%.
- Avoidant, Secure, Ambivalent and Disorganized attachment classifications, as measured in the IBS, were found to be significantly associated with those made in the Strange Situation at 12-months ($r = .18-.13$, $p < .01$).
- There was an overall concordance of 56% for classifications of Avoidant, Secure, Ambivalent and Disorganized.

Overall concordance for Disorganized versus Organized attachment classification was 68%.

Relationship of Attachment Security in the IBS and Maternal Sensitivity in 3 Different Contexts (See Figure 1)

- Attachment Security in the IBS paradigm was found to be associated with higher levels of maternal sensitivity at 12- and 24-month home assessments, as well as the 24-month IBS assessment (Multivariate $F(3, 60) = 5.47$, $p < .01$).
- When observed in the home, mothers of children classified as Secure in the IBS paradigm were more sensitive at both 12-months ($F(1, 62) = 7.64$, $p < .01$) and 24-months ($F(1, 62) = 6.45$, $p < .01$).
- When observed in the IBS paradigm at 24-months, mothers of children classified as Secure in the IBS were more sensitive ($F(1, 62) = 26.53$, $p < .01$).

Figure 1: Relation Between Attachment Security in the IBS Paradigm and Maternal Sensitivity (MBCS) in 3 Contexts



Relation of Attachment Disorganization and AMBIANCE Classification as Assessed in the IBS

- Attachment disorganization in the IBS paradigm was significantly associated with maternal disrupted communication ($r = .20$, $p < .01$) as assessed with the AMBIANCE in the IBS paradigm.

	Disrupted	Not Disrupted	Total
Disorganized	25 (64%)	7 (16%)	32 (38%)
Not Disorganized	14 (36%)	38 (84%)	52 (62%)
Total	39 (48%)	45 (52%)	84

CONCLUSIONS

- Results indicate that the IBS is a valid tool for assessing the quality of the mother-toddler attachment relationship. Specifically, classifications of attachment made in the IBS at 24-months were found to be consistent with those made at 12-months in the Strange Situation.
- With respect to maternal behavior, ratings of maternal sensitivity in the IBS were positively correlated significantly with those made in the home at 12- and 24-months. Atypical maternal behavior classifications in the IBS were concordant with those made previously at 12-months.
- Attachment classifications made in the IBS were found to relate to maternal behavior in theoretically meaningful ways. Specifically, mothers of secure toddlers were more sensitive and mothers of disorganized toddlers were more likely to be classified as disrupted.
- Overall, these findings suggest that there is substantial continuity in the quality of the attachment relationship and maternal behavior across time and context. These results are interesting given the highly sensitive nature of the present sample in which frequent stressors likely affect the nature of the parent-child relationship. Publicizing these findings with a low-risk sample is necessary.
- The IBS paradigm promises to be a powerful tool for assessing attachment and maternal behavior at 24-months.

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