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Assessing Maternal Sensitivity from Videotaped Recordings: Validity and Practical Applications

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ABSTRACT

This study examined the use of short, videotaped, mother-infant laboratory interactions instead of longer home visits to assess maternal sensitivity. Scores generated when toddlers were 24-months were found to be correlated with assessments of maternal sensitivity and attachment security from previous home visits The results suggest that coding from appropriate samples of recorded interactions may provide valid assessments of maternal sensitivity and attachment security but a number of important caveats must still be resolved.

INTRODUCTION

➢ *Attachment theory* describes the bonds between caregivers and children that serve a protective function for children.

➢ *Maternal sensitivity* is defined as a mother's ability to perceive and respond promptly and accurately to her child's signals (Bowlby, 1969; Ainsworth, Blehar, Waters, & Wall, 1978).

➢ Maternal sensitivity is a strong predictor of infant attachment (e.g., Ainsworth et al., 1978; Pederson, Gleason, Moran, & Bento, 1998).

➢ The naturalistic observation of mother-infant interactions in the home has produced robust evidence of this predictive relationship between sensitivity and attachment security.

➢ Maternal sensitivity is typically assessed using the 90-item Maternal Behavior Q-Sort (MBQS; Pederson, Moran, & Bento, 1999) immediately following lengthy (i.e., 2-3 hour) naturalistic home observations by trained observers.

➢ This live observation method requires substantial human resources:

➢ at least 2 home visitors to calculate interrater reliability

➢ an extensive time commitment immediately following the home visit to do the q-sort

➢ the visitor's attention during the visit, which is often divided due to the demands of the visit

➢ the visitor's memory following the visit and the quality of their written notes

➢ As well, it is important to be able to measure maternal sensitivity in environments other than the home with a broad range of ages of children, in order to study the generalizability of this construct across contexts and its longitudinal patterns.

➢ In contrast to the traditional methodology, in which sensitivity is assessed following home visits by the home visitors, this study reports data on:

➢ shorter (8-minute) observations of maternal behavior during a laboratory procedure

➢ videotaped records (as opposed to "live" observations)

➢ observations by a blind coder who was not present at the lab visits in which the 8-minute interaction was recorded

METHOD

PARTICIPANTS

➢ *N* = 85 adolescent mothers involved in a longitudinal study of mother-infant attachment who were recruited from two city hospitals shortly after the birth of their infant.

➢ Mean age of mothers at the birth of their infants was 18.4

➢ The majority of mothers were single, on social assistance, and had completed 11 years of education.

MEASURES

Maternal Behavior Q-Sort- Revised
The MBQS-R consists of 81-items describing maternal behaviors. It was created by revising the MBQS slightly to reflect the older age of the children and the laboratory context. Observers sorted these items into piles most and least like the mother. The items were then correlated with a sort of the prototypically sensitive mother to yield an overall sensitivity score. Interrater reliability on *n* = 39 sorts was *r* = .58 (*p* < .001).

Maternal Behavior Q-Sort
The MBQS consists of 90 items describing maternal behaviors. The sorting procedure was as above.

Attachment Q-Set (AQS; Waters, 1987)
The AQS consists of 90 items describing attachment relevant infant behavior. Observers sorted these items into piles most and least like the infant. The items were then correlated with a sort of the prototypically secure infant to yield an overall security score

PROCEDURE

➢ At 6, 12, and 24 months of infant age, mother-infant dyads were observed during 2-3 hour semi-structured home visits. Maternal sensitivity was assessed using the MBQS following the visit.

➢ At the 12 and 24 month home visits, infant security was assessed using the AQS based on infant behavior during the home visits.

➢ At 24 months of age, approximately 2 weeks after the 24 month home visit, children and their mothers participated in a laboratory procedure called the Interesting-but-Scary (IbS) Paradigm (DeOliveira, 2001). The IbS involved a reunion following a 10-minute separation, a 5-minute free-play period with toys and a 3-minute long introduction of a potentially fear-evoking remote-controlled toy spider. Maternal sensitivity was coded using the MBQS-R from videotaped records of this interaction.

RESULTS

➢ Maternal sensitivity coded from the short videotaped IbS paradigm at 24 months was significantly correlated with assessments of sensitivity made immediately following live home visits at a concurrent assessment point as well as at 6 and 12 months of infant age (see Table 1).

		6-month MBQS	12-month MBQS	24-month MBQS
24-month MBQS-R	Pearson Correlations	.26	.31	.45
	Sig. (2-tailed)	.05	.01	.01

TABLE 1. Correlations between 24 month MBQS-R scores and MBQS scores at 6, 12, and 24 months

➢ Maternal sensitivity coded from the IbS paradigm was also significantly correlated with attachment security at both a concurrent assessment point as well as an earlier time (see Table 2).

		12-month AQS	24-month AQS
24-month MBQS-R	Pearson Correlations	.37	.47
	Sig. (2-tailed)	.01	.01

TABLE 2. Correlations between 24-month MBQS-R scores and AQS scores at 12- and 24-months

CONCLUSIONS

◆ Short laboratory interactions assessed by a blind coder may provide a valid assessment of maternal sensitivity.

◆ These assessments are significantly correlated with sensitivity scores at 6-, 12-, and 24-months and with attachment security at 12- and 24-months.

◆ Laboratory assessments of sensitivity can be combined with home visits to provide a more comprehensive picture of the mother-infant relationship.

◆ Working from videotapes allows one to review the interaction repeatedly with multiple viewers to ensure that one's assessment is as complete and accurate as possible.

◆ Shorter assessments of maternal are more time-efficient and cost-effective than longer home visits, making them potentially useful for clinicians.

◆ Using shorter laboratory contexts may be less demanding and more accommodating for participants.

◆ Several important caveats must still be resolved:
1) Thorough training is required to use the MBQS.
2) Multimodal, multimethod, longitudinal assessments of maternal behavior are still ideal to provide insights into the development of the attachment relationship and its specificity in different contexts.
3) In general, more data are better; 8-minute assessments of maternal behavior in the laboratory may limit the ability to pick up the intricacies of the parent-child relationship.

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References available upon request