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Psychometric Properties of a Short Version of the Maternal Behavior Q-sort: What You Need to Know Before Analyzing the Data

Heidi N. Bailey
University of Guelph

Rossana Bisceglia
University of Toronto

Jacqueline Roche
University of Guelph

Jennifer Jenkins
University of Toronto

Greg Moran
University of Western Ontario, gmoran2@uwo.ca

Psychometric Properties of a Short Version of the Maternal Behavior Q-sort: What You Need to Know Before Analyzing the Data

Heidi N. Bailey[1], Rossana Bisceglia[2], Jacqueline Roche[1], Jennifer Jenkins[2], Greg Moran[3]

1 University of Guelph, 2 University of Toronto, 3 University of Western Ontario, Ontario, Canada

OVERVIEW

- *N* =116 mother-infant dyads (2 months old)
- **Coders completed the MBQS-mini 2 ways—forced vs. unforced q-sort distributions—to determine whether psychometric properties differed.**

SENSITIVITY SCORES:

- **were virtually identical: *r* = .99.**

BEHAVIORAL DOMAINS:

- **Attachment related domains: Responsiveness, Non-Interference, Affective Communication.**
- **For all 3 (but not the Teaching domain) forced and unforced were highly correlated, and high internal consistency.**

CONCLUSIONS:

- **Results support the use of forced q-sort data, but show no benefits associated with using forced over unforced distributions. Internal consistency was higher for the unforced teaching domain.**

The Maternal Behaviour Q-sort (MBQS; Pederson & Moran, 1995) is arguably the most effective measure for assessing maternal sensitivity. Meta-analytic findings have demonstrated strong associations between the traditional 90-item observer-completed q-sort and infant attachment security (Atkinson et al., 2005). Recently a 25-item version, the MBQS-mini, was developed: recent findings support its validity (Tarabulsy et al., 2009).

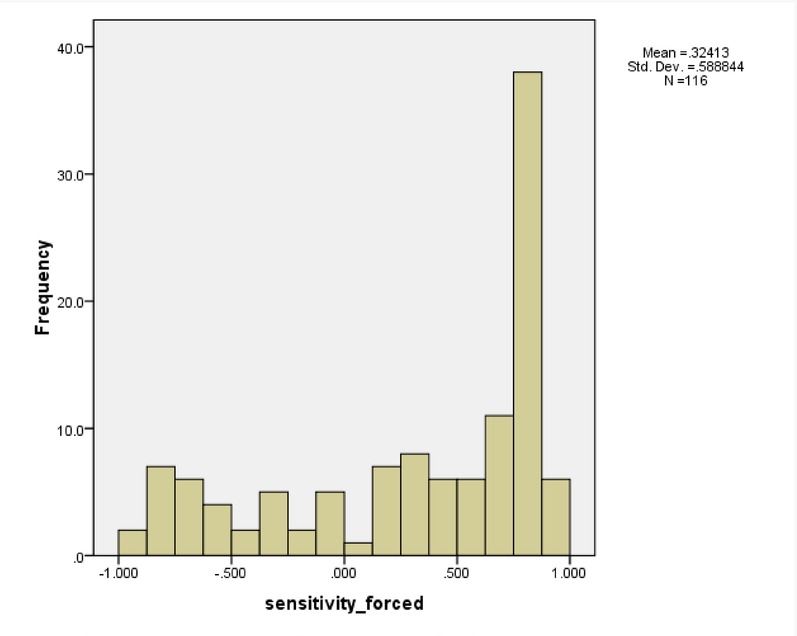
Little is known about the empirical properties of observer-completed q-sorts. Typically, observers sort the items into a forced distribution, creating ipsative data: placement of each item is dependent on the placement of others within the sort. Ipsative scores violate assumptions of classical psychometric analysis, raising concerns about the robustness of analytical results using q-sort data. Forced q-sorts with fewer than 30 items are considered particularly vulnerable to distorted psychometric properties (Baron, 1996). However, q-sort proponents assert that forced q-sorting encourages additional reflection and reduces the likelihood of positive or negative bias, theoretically improving data quality.

To assess the empirical properties of the MBQS-mini, trained coders observed videorecordings of 116 mothers and their infants (average age: 2 months) interacting in a variety of contexts. They completed forced and unforced assessments using the MBQS-mini. These data represent a partial sample from the Kids, Families and Places study (Jenkins & Boyle, 2004. Transactional processes in emotional and behavioral regulation: Individuals in Context).

SENSITIVITY SCORES:

Traditionally, sensitivity scores have been calculated by correlating each mother's q-sort profile with the profile of a prototypically sensitive mother.

Sensitivity scores based on forced and unforced distributions were **virtually identical:** *r* = .99



Histogram of sensitivity scores

Forced sorts: *M* = .32, *SD* = .59, range -.88 to .95
Unforced sorts: *M* = .33, *SD* = .59 range -.87 to .92

BEHAVIORAL DOMAINS:

Behavioral domains also traditionally have been created by aggregating q-sort items that assess theoretically similar behaviors. Domains derived from the MBQS-mini include three that bear resemblance to Ainsworth's (1969) behavior scales and assess constructs that fall within the broader construct of maternal sensitivity: **Synchrony, Awareness,** and **Positive Communication**. A fourth, **Teaching** domain theoretically is not directly related to attachment quality.

	Mean (SD)		alpha		*r* with Sensitivity		*r* between forced and unforced domains
	forced	unforced	forced	unforced	forced	unforced	
Synchrony (7 items)	.29 (1.23)	.38 (1.26)	.94	.96	.96	.96	.98
Awareness (5 items)	.71 (1.09)	.75 (1.13)	.92	.94	.91	.93	.97
Positive Communication (6 items)	.82 (.77)	.83 (.84)	.80	.86	.80	.85	.93
Teaching (4 items)	.18 (.71)	.38 (.94)	.55	.81	.68	.75	.80

CONCLUSIONS:

Results support the use of forced q-sort data, even for the MBQS-mini with only 25-items:

The process of correlating with a prototypical sort resulted in a strikingly similar distribution of sensitivity scores.

For behavioral domains, alpha's were high overall, and average forced/unforced domain scores were highly similar. The teaching domain was the exception: when calculated from forced data, internal consistency was substantially lower, as were correlations with sensitivity and with the unforced teaching domain scores. These domain-specific problems likely resulted from sorters prioritizing attachment-related items over teaching items when forcing the sort.

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