Description of Measure

Purpose
To measure parental perception of infant temperament, focusing on difficult temperament.

Conceptual Organization
Three separate Infant Characteristic Questionnaire (ICQ) forms have been developed, targeting infants at approximately 6, 13, and 24 months of age. This description will focus only on the form developed for 6 month olds (ICQ-6): This is the instrument used by LONGSCAN.

The ICQ-6 is comprised of 24 items describing infant behavior. The parent or primary caregiver ranks each item on a 7-point scale, indicating the level of perceived difficulty in dealing with the described behavior. Four subscales have been identified through principal components analyses: Fussy/Difficult, Unadaptable, Dull, and Unpredictable.

Item Origin/Selection Process
The items were suggested by Thomas and colleagues’ temperament dimensions (Thomas, Chess, & Birch, 1968; Thomas et al., 1963), Prechtl’s changeability and soothability variables (1963), and Robson and Moss’s fussiness and sociability variables (1970).

Materials
See also Bates, Freeland, & Lounsbury, 1979.

Time Required
Approximately 5 minutes

Administration Method
Interviewer- or self-administered
Training

Minimal

Scoring

Score Types

Responses may range from 1 (very easy) to 7 (very difficult). For example, the first item on the instrument asks: “How easy or difficult is it for you to calm or soothe your baby when he/she is upset?”

Scales are composed as follows (See Bates, 1980 and Bates, Freeland, & Lounsbury, 1979 for details.)..

- Fussy/Difficult: Items 1, 5, 6, 12, 13, 14, 17, 22, and 24
- Unadaptable: Items 7, 9, 10, 11, and 20
- Dull: Items 15 (reverse-coded), 16, 18, and 23
- Unpredictable: Items 2, 3, 4, 8, 19, and 21

Based on the examination of the factor structure of the items, the authors composed scales using only the discriminating items for use with their normative sample. These scales are composed as follows:

- Fussy/Difficult: Items 1, 5, 6, 13, 22, and 24
- Unadaptable: Items 9, 10, 11, and 20
- Dull: Items 15 (reverse-coded), 16, and 23
- Unpredictable: Items 2, 3, and 4

Score Interpretation

Higher scores indicate a more difficult temperament.

Norms and/or Comparative Data

Bates, Freeland, and Lounsbury (1979) generated norms for scale scores for the ICQ-6 from a sample of 365 children using only the items which had discriminating factor loadings. The mean scale scores for 6-month olds are as follows: Fussy/Difficult, $M = 17.77$, $SD = 5.88$;
Unadaptable, $M = 8.90$, $SD = 1.85$; Dull, $M = 5.88$, $SD = 1.85$; and Unpredictable, $M = 7.32$, $SD = 2.69$.

**Psychometric Support**

*Reliability*

The authors assessed the internal consistency of the ICQ-6 on a cross-validation sample (N = 196) with the following alpha coefficients: Fussy/Difficult, .79; Unadaptability, .75; Dull, .39 and Unpredictable, .50. Test-retest reliability scores computed over 2 to 10 day intervals were as follows: Fussy/Difficult, .70; Unadaptability, .54; Dull, .57, and Unpredictable, .47 (Bates, Freeland, & Lounsbury, 1979).

*Validity*

Fussy/Difficult is the most clear-cut and valid factor of the ICQ-6 because behavior characterizing this dimension of an infant's temperament is most readily recognized. Convergence has been noted between ICQ factors and comparable variables in other parent report temperament instruments (Bates, Freeland, & Lounsbury, 1979).

**LONGSCAN Use**

*Data Points*

Pre-Age 4: NW & MW sites only

*Respondent*

Primary maternal caregiver

*Mnemonic and Version*

ICQA

*Rationale*

Child temperament may be linked to maternal abuse potential (Dukewich, Borkowski, & Whitman, 1996), child resilience (Wyman, Cowen, Work, & Parker, 1991), and how children respond to maltreatment (internalizing vs. externalizing, etc.).
Administration and Scoring Notes

LONGSCAN used the ICQ for children whose earliest LONGSCAN interview occurred when the child was 24 months of age or younger. For children between the ages of 0 and 8 months, the primary caregiver was asked to respond based on the child’s current behavior. For children between the ages of 9 and 24 months, the caregiver was asked to give a retrospective report of the child based on behavior at around 6 months of age.

Because of the age restrictions, only the MW and NW sites administered this instrument as part of their initial LONGSCAN protocol. Although the other three sites, SO, SW and EA, also administered this form to their samples the collection of these data preceded their joining the LONGSCAN consortium, and are thus not currently in the LONGSCAN database.

The ICQ was scored according to the recommendation of the author, using only the items with discriminating factor loadings based on the normative sample used in Bates, Freeland, & Lounsbury (1979).

Results

Descriptive Statistics

Table 1 lists the mean scores, by race and study site, for each ICQ subscale as reported by maternal caregivers at the Pre-age 4 interview. There were few differences by site or race. The means for the Unadaptable and Dull subscales were high compared to those found in normative samples.

Table 1 about here

Reliability

Internal consistency reliability of the ICQ subscales was assessed by calculating Cronbach’s alpha coefficients for each subscale. Table 2 lists these values by race and study site. Like Bates, we found the Fussy/Difficult subscale to have the highest reliability. The Unadaptable subscale also showed acceptable internal consistency, while the Dull and Unpredictable scales demonstrated the lowest internal consistency reliability.
References and Bibliography


Table 1. Mean Scores for ICQ Subscales by Race and Study Site

Pre-Age 4 Interview

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Fussy/Difficult M (SD)</th>
<th>Unadaptable M (SD)</th>
<th>Dull M (SD)</th>
<th>Unpredictable M (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td>401</td>
<td>17.83 (6.52)</td>
<td>11.65 (4.9)</td>
<td>7.11 (3.43)</td>
<td>7.81 (3.53)</td>
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<td><strong>Race</strong></td>
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<tr>
<td>White</td>
<td>80</td>
<td>17.48 (6.25)</td>
<td>10.45 (5.14)</td>
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<td>Black</td>
<td>178</td>
<td>17.85 (6.51)</td>
<td>12.62 (4.79)</td>
<td>7.47 (3.48)</td>
<td>8.07 (3.73)</td>
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<tr>
<td>Hispanic</td>
<td>48</td>
<td>16.23 (5.90)</td>
<td>10.64 (4.64)</td>
<td>7.23 (3.83)</td>
<td>6.88 (3.26)</td>
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<tr>
<td>Multiracial</td>
<td>88</td>
<td>18.99 (7.02)</td>
<td>11.61 (4.75)</td>
<td>6.93 (3.48)</td>
<td>7.64 (3.26)</td>
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<td>17.71 (6.70)</td>
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<td><strong>Study Site</strong></td>
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<td>MW</td>
<td>319</td>
<td>17.88 (6.37)</td>
<td>11.54 (4.79)</td>
<td>7.08 (3.39)</td>
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<td>NW</td>
<td>82</td>
<td>17.66 (7.12)</td>
<td>12.05 (5.30)</td>
<td>7.24 (3.60)</td>
<td>7.77 (3.90)</td>
</tr>
</tbody>
</table>

*Source.* Based on data received at the LONGSCAN Coordinating Center by 7/8/97.

*Data for the NW site are for the portion of their sample who were under the age of 25 months at the time of the baseline interview.*
Table 2. Cronbach’s Alpha Values for ICQ Subscale by Race and Study Site

Pre-Age 4 Interview

<table>
<thead>
<tr>
<th></th>
<th>Fussy/Difficult</th>
<th>Unadaptable</th>
<th>Dull</th>
<th>Unpredictable</th>
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<tr>
<td><strong>Total</strong></td>
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<td>.49</td>
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<tr>
<td>White</td>
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<td>.60</td>
<td>.63</td>
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<tr>
<td>Multiracial</td>
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<td>.33</td>
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<tr>
<td>Other</td>
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<td>.75</td>
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<tr>
<td>MW</td>
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<td>.64</td>
<td>.46</td>
<td>.47</td>
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<tr>
<td>NW</td>
<td>.79</td>
<td>.75</td>
<td>.56</td>
<td>.56</td>
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</table>

*Source.* Based on data received at the LONGSCAN Coordinating Center by 7/8/97.