CDI Words and Sentences: validity and preliminary norms for British English

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Purpose of Study
- Adapt MacArthur CDI Words & Sentences to British English
- Examine its concurrent validity
- Develop preliminary norms

MacArthur CDI
- Parent-report measure of early language development
- Excellent validity and reliability
- Developed and normed in the USA (Fenson et al. 1993)
- Adapted to over 25 languages

CDI Words & Gestures
- Infant form
  - Age 8-16 months
  - Comprehension and production vocabulary
  - 396 words - 19 semantic fields

CDI Words & Sentences
- Toddler form
  - Age 16-30 months
  - Production vocabulary
  - 680 words - 22 semantic fields

British English Adaptations
- Oxford CDI (Hamilton et al. 2000)
  - Based on Infant CDI vocabulary checklist
  - Comprehension and production vocabulary
    - 416 words - 19 semantic fields
  - Predominantly middle class sample from Oxford area (N = 669)
  - Age range tested: 12-25 months
British English Adaptations

- Newcastle CDI
  - Based on Toddler CDI
  - Part I: production vocabulary
    - ~10% of words altered
    - 672 words - 22 semantic fields
  - Part II - sentences and grammar
  - Predominantly middle class sample from Tyneside (N = 112)
  - Age range tested: 16-30 months

Newcastle CDI - Validity

- CDI vocabulary
  - RDLS3 expressive vocabulary $r = .73$
  - RDLS3 expressive total $r = .74$
- CDI grammar
  - RDLS3 expressive total/CDI sentence complexity $r = .85$

All correlations significant, $p < .01$
Predictors of Grammatical Complexity

<table>
<thead>
<tr>
<th></th>
<th>$R^2$</th>
<th>$R^2$ change</th>
<th>Sig. F change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>.482</td>
<td>.482</td>
<td>.0005</td>
</tr>
<tr>
<td>Maternal Education</td>
<td>.531</td>
<td>.049</td>
<td>.002</td>
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</tbody>
</table>

Regional Differences

Note: median scores plotted; Oxford data (Hamilton et al. 2000, Fig 5) based on midpoint of age interval.

National Differences?

Note: median scores plotted; US data (Fenson et al. 1994, Fig 5) based on midpoint of age interval.

Demographics

<table>
<thead>
<tr>
<th></th>
<th>Newcastle sample (%)</th>
<th>US sample (%)</th>
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<tbody>
<tr>
<td>Girls</td>
<td>52.7</td>
<td>50.4</td>
</tr>
<tr>
<td>First borns</td>
<td>57.7</td>
<td>n.a.</td>
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<tr>
<td>Ear infections</td>
<td>3.7</td>
<td>4.3</td>
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Maternal Education Level

<table>
<thead>
<tr>
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<th>Newcastle sample (%)</th>
<th>US sample (%)</th>
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</thead>
<tbody>
<tr>
<td>School leaver$^1$</td>
<td>38.4</td>
<td>4.5</td>
</tr>
<tr>
<td>A-level or equivalent$^2$</td>
<td>22.2</td>
<td>42.2</td>
</tr>
<tr>
<td>University degree</td>
<td>39.4</td>
<td>53.3</td>
</tr>
</tbody>
</table>

US equivalents: (1) some high school or less; (2) high school diploma or some college education.
Hypotheses

- There are demographic differences between the samples (e.g., parental education level).
- Children in the UK and US develop at different rates (e.g., due to cultural differences, differences in interaction, amount of CDS).
- There are differences in the amount of knowledge UK and US parents are willing to attribute to their children.

Caveat

- ‘Researchers working with infants in the UK should be wary of using the US vocabulary developmental norms.’
  (Hamilton, Plunkett & Schaefer 2000, p702)

What next?

- National norms needed for British CDIs
  - Large, stratified random sample reflecting full range of socio-economic diversity of the UK.

CDI Vocabulary Production

![CDI Vocabulary Production Chart]

Note: median scores plotted. Oxford (Hamilton et al. 2000, Fig 5) and US data (Fenson et al. 1994, Fig 5) based on midpoint of age interval.

British English Adaptations

- CDI: UK Short Form (Dale et al. 1998)
  - Based on Toddler CDI, Short Form A (Fenson et al. 2000)
  - 100 words - production only
  - Words chosen to be developmentally discriminating
  - Normative study underway