

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

Thomas Klee & Claire Harrison  
University of Newcastle upon Tyne

1

## Purpose of Study

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

2

## 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

3

## CDI Words & Gestures

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

4

## CDI Words & Sentences

- Toddler form
- Age 16-30 months
- Production vocabulary
- 680 words - 22 semantic fields

5

## 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

6

## 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

7

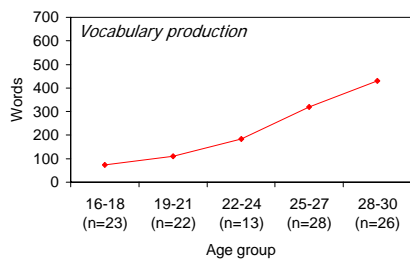
## Newcastle CDI - Validity

- 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,  $p < .01$

8

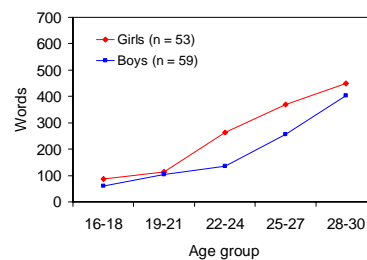
## Newcastle CDI



Note: mean scores plotted (max = 672).

9

## Newcastle CDI



Note: mean scores plotted.

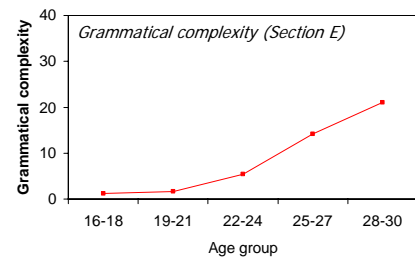
10

## Predictors of Vocabulary Size

	R <sup>2</sup>	R <sup>2</sup> change	Sig. F change
Age	.571	.571	.0005
Sex	.596	.025	.017
Maternal Education	.618	.021	.024

11

## Newcastle CDI



Note: mean scores plotted (max = 37).

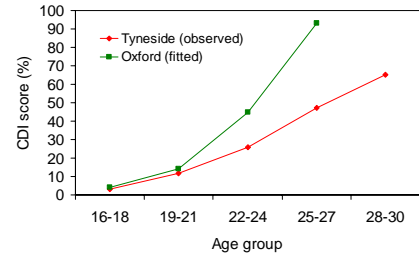
12

## Predictors of Grammatical Complexity

	R <sup>2</sup>	R <sup>2</sup> change	Sig. F change
Age	.482	.482	.0005
Maternal Education	.531	.049	.002

13

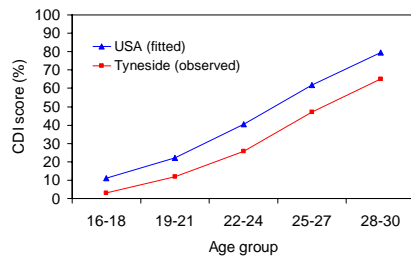
## Regional Differences



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

14

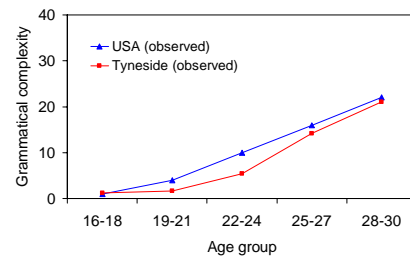
## National Differences?



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

15

## National Differences?



Note: mean scores plotted (max = 37); US data (Bates et al. 1995, Fig 4.5) based on midpoint of age interval.

16

## Demographics

	Newcastle sample (%)	US sample (%)
Girls	52.7	50.4
First borns	57.7	n.a.
Ear infections	3.7	4.3

17

## Maternal Education Level

	Newcastle sample (%)	US sample (%)
School leaver <sup>1</sup>	38.4	4.5
A-level or equivalent <sup>2</sup>	22.2	42.2
University degree	39.4	53.3

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

18

## 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.

19

## Caveat

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

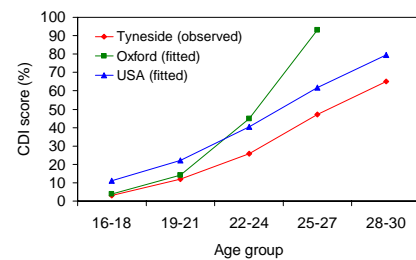
20

## What next?

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

21

## CDI Vocabulary Production



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.

22

## 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

23