The effect of age on the composition of the first 10 words produced: Evidence from the UK-CDI

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INTRODUCTION

- Children's first words have typically been investigated in terms of early comprehension usually using Preferential Looking Paradigms (e.g. Tincoff & Juscyk, 2012; Syrnyk, 2008)
- **A noun bias** has been shown in children's first words
- Other studies investigating children's early production of words found that **words spoken in their environment** make up their early vocabulary (see Tardif et al., 2008)
- While early production data exist for US-English, no representative data exists for UK-English children
- Furthermore, only few studies have investigated the effect of age on the composition of children's first word production (e.g. Syrnyk, 2008)
- If children approach language with a **noun bias**, the age of first word production **should not impact** the **composition** of those words
- However, if the first words reflect the **most common words** in the input, we might expect younger and older children to **learn different words** due to different environmental factors, e.g. a shift in mobility and feeding practices
- A new UK-wide parent report instrument (UK-CDI) is used to compare the **composition of the first 10 words** in children who reached up to 10 words at **8-10 months** of age with those who reached up to 10 words at **16-18 months** (Alcock et al., in prep)

DESIGN & METHODS

Participants:

- Participants were recruited in person (e.g. Children's Centres, Community groups, libraries) and online (via social media, email etc.)
- As part of the standardisation process of the UK-CDI more than 1700 UK parents of children between 8 and 18 months old participated
- For the purpose of the current study, questionnaires were selected of children who reached a productive vocabulary of 10 words or less between **8-10 months (N=120)** and **16-18 months (N=25)**

Criteria for participation:

- A productive vocabulary of 10 words or less
- Monolingual English children
- Full-term
- No family history of speech and language problems

Materials:

The UK-CDI is a newly developed and UK-standardised adaptation of the original US American MacArthur CDI (Fenson et al., 1994)
It consists of two questionnaires:

- UK-CDI (WG): Checklist of words (e.g. sounds, animals) and gestures (e.g. first communicative gestures, actions with objects)
- Family Questionnaire: Family background information (e.g. child's health, SES information)

Procedure:

- Completion of UK-CDI once via post or online depending on participants' preference (a validation study showed that results were not affected by the means of completion)
- After completion, parents returned the paper version via prepaid post; the online version was automatically saved via the online survey tool (Survey Monkey)
- As a 'thank you', participants received a personalised laminated word-cloud or a £5 supermarket voucher

RESULTS

- Mann-Whitney U Tests were conducted with the two age groups (8-10 months ,16-18 months) and the five most common categories (sounds, food, routines, people, animal words)

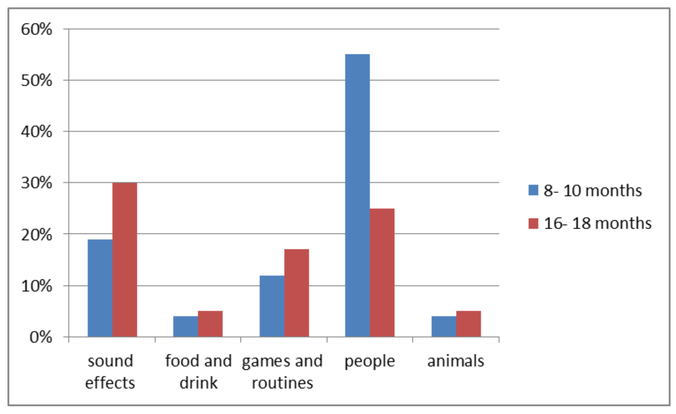
Sound effects: 8-10-month-olds (Md=.0,n=120) and 16-18-month-olds (Md=.25,n=25), U=1053, z=-2.59,**p=.01**,r=0.22

Food and drink: 8-10-month-olds (Md=.0,n=120) and 16-18-month-olds (Md=.0,n=25), U=1179, z=-3.17,**p=.002** ,r=0.26

Games and routines: 8-10-month-olds (Md=.0,n=120) and 16-18-month-olds (Md=.0,n=25), U=1356, z=-.84,p=.40,r=0.07

People: 8-10-month-olds (Md=.56,n=120) and 16-18-month-olds (Md=.25,n=25), U=808, z=-3.66,**p<.000**,r=0.3

Animals: 8-10-month-olds (Md=.0,n=120) and 16-18-month-olds (Md=.0,n=25), U=1354, z=-1.10,p=.27,r=0.02



- Children know more than just nouns!

They also show words for:
- sounds effects
- games & routines

Nouns: **79%** for 8-10-month-olds vs **42%** for 16-18-month-olds, **p=.001**

- 16-18-month-olds use words that **span more categories** (words out of 13 different categories) in comparison to the 8-10-month-olds (words out of 12 categories)
- 16-18-month-olds also produce significantly **more food and drink words** which can be explained by more exposure to different foods in the second year of life

DISCUSSION

- The results suggest that the **early environment** plays a **substantial role** in the composition of the early lexicon within, as well as between, languages
- The increase of more social communication (e.g. sounds, games and routines) in the older group could be due to **advances in social cognition** from 14-months old as described by Bergelson & Swingley (2013) when studying language comprehension
- Future research should look at a bigger sample of the 16-18-month-old age group and a follow-up would be useful in order to investigate possible implications

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