Sub-types of Language Impairment: Agreement between morphosyntactic and deep-structure probes

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THE PROBLEM

Many of the morphosyntactic (MS) usages that are A-TYPICAL for general American English (GAE) first-dialect speakers are grammatical in adult UN-IMPAIRED African American English (AAE) first-dialect speakers.

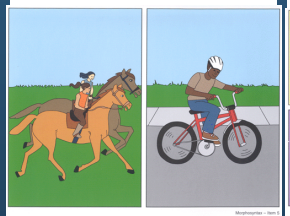
Examples of **contrastive** features
- Zero present-tense *copula (he Ø bad)*
- Zero 3rd person verb agreement *(he walk)*
- Zero past tense marking *(he walk yesterday)*
- Alternation of / f / and / *th* /, / v / and / *th* /

Since over 90% of 4- 6-year-old and 50% of 7- 9-year-old TYPICALLY DEVELOPING AAE speakers use the same zero morphemes and alternations as GAE and AAE speakers with LI *(Jackson & Pearson, 2010)*→

therefore, those elements (as in A) are ambiguous with respect to clinical status for AAE speakers AND CANNOT BE USED FOR DIAGNOSIS OF LI.

A

Contrastive MS: they ride horses, but the boy always – ride(s) a bike



Contrastive Phonology: I see a toothbrush/ toofbrush, dentist/dentis'

THE SOLUTION

Non-contrastive assessment (Seymour, Bland, & Green, 1998;also Stockman, 1996; Craig & Washington, 2006)

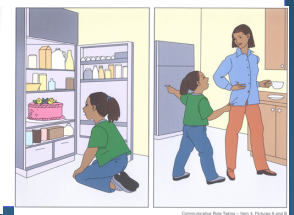
Non contrastive assessment 1. Probe fundamental "deep structure" (DS)--syntactic, semantic, and pragmatic skills, such as are found on the *Diagnostic Evaluation of Language Variation Norm-referenced (DELV-NR)* (as in B).

B

Examples of Deep-structure Probes (DS)

"Who ate what?" (paired exhaustive double-wh)

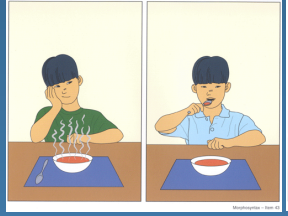
Communicative Role-Taking: What is the girl asking her mom?



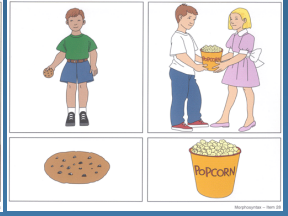
Non-contrastive assessment 2: Probe **non-contrastive MS** e.g. past-tense copula *was* and possessive pronouns *(as in C)*. Unlike contrastive MS—these **ncMS** elements are obligatory for children learning either dialect. (Examples from the *DELV-Screening Test, DELV-ST*.)

C

Past-tense "to be": Today the boy is eating soup, but yesterday he couldn't, because-- it was too hot.



Possessive Pronouns: He has a cookie. They have popcorn. The cookie is *his*. The popcorn is ___



The EMPIRICAL QUESTIONS

***1**. DO DEEP STRUCTURE (DS) PROBES AND ncMS PROBES IDENTIFY THE SAME CHILDREN AS IMPAIRED?

i.e. if DS is impaired, is ncMS also impaired? (and vice versa)

***2**. Will we lose diagnostic power for GAE speakers especially if we abandon contrastive MS as markers of LI?
DO CONTRASTIVE MS AND NON-CONTRASTIVE MS (ncMS) PROBES GIVE DIFFERENT INFORMATION ABOUT LI? i.e. If a child has problems with ncMS issues does he or she also have HI contrastive MS? (Can we use just non-contrastive MS probes? Or do we also need contrastive MS probes?)

Methods

Participants: 758 4- to 12-year-old AAE- and GAE-speakers from the *DELV* fieldtesting (from all regions of the country, mostly low-SES parent education levels). ONLY children **doubly-identified as TD or LI** (per preexisting diagnosis, receiving speech or language services, confirmed by DELV-NR scores) were selected for the analysis.

Materials: The *Dialect Sensitive Language Test* (Seymour et al., 2000). The *DSLT* includes DS probes and both contrastive and non-contrastive MS probes.

Procedures: Children were scored on the DS probes according to guidelines subsequently published for the DELV-NR. For contrastive MS, children's responses on what became the DELV-ST, Part 1, were hi or low. For non-contrastive MS probes, z-scores were computed for each age (4, 5, 6, 7-8, 9-10, 11-12); below 1 sd = "LI-MS"

RESULTS (Cross-tabulation)

EurA/ GAE	N =	TD	LI		
			LI-DS only B	LI-DS & LI-ncMS B & C	LI-ncMS only C
Total GAE	231	194	18	10	9
A HI Contrastive MS	39	16	8	9	6
A LO Contrastive MS	192	178	10	1	3

Question 1. No. DS and ncMS overlapped in only about 1/3 of the cases. DS probes identified just over 75% of the total LI group; ncMS identified about just over 50% of the LI group (for both language groups).

AA/ AAE	N =	TD	LI		
			LI-DS only B	LI-DS & LI-ncMS B & C	LI-ncMS only C
Total AAE	527	443	37	28	19
A HI Contrastive MS	414	332	35	28	19
A LO Contrastive MS	113	111	2	0	0

Question 2. Yes. If a child has problems with ncMS, she or he also exhibited Hi contrastive MS usages (except 4 GAE speaking children). The opposite was NOT true: 80% of AAE children with Hi contrastive MS usage did not have ncMS issues. For GAE speakers the percentage of HI contrastive MS users who were doubly-identified as typically developing was 40%.

CONCLUSIONS

We conclude that DS and NON-contrastive MS probes (as opposed to traditional Contrastive MS probes) are essential components of LI Assessment for AAE-speaking children, and are effective and important for GAE-speakers as well.

Since neither of the sets of probes picked out all of the Doubly-Identified children with LI by itself, we conclude that both are necessary. If one has the option of only one type of probes, DS probes should be preferred because they found more of the LI children than ncMS on its own. (77% vs. 50%)

Contrastive MS over-identifies AAE children as LI (here by 75%), but it also both over- and under-identifies EurA children. Note that there were GAE speakers with "full inflections" who were nonetheless doubly-identified as having LI.

EurA children with ncMS issues almost all use high levels of contrastive MS as well. AA children with ncMS issues ALL use hi-contrastive MS as well. Therefore, there is no need to test both. However, clinicians may want information about the child's usage of contrastive MS in case it is relevant for treatment goals (especially for GAE speakers).

REFERENCES

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2. Seymour, H. N., Roeper, T. & de Villiers, J. G. (2003). ***DELV-ST** (Diagnostic Evaluation of Language Variation) Screening Test* . San Antonio TX: The Psychological Corporation.
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http://www.umass.edu/aae/downloads