Early Verb Production in Autism Spectrum Disorder (ASD)
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Background
- Verb diversity in childhood predicts adult language and communication outcomes in ASD.
- But does ASD often involve difficulty with early verb production?
- Past work measuring overall verb vocabulary size via parent-report checklists shows mixed results.
- What about more detailed measures of verb use over time in a naturalistic context?
- This project investigates naturalistic verb production in ASD and typical development (TD).

Research Questions
1. How does early verb production in ASD compare to early verb production in typical development?
2. What contributes to use of high-frequency verbs?
3. What contributes to the lexical-semantic composition of children’s verb vocabularies?

Methods
- Data from a longitudinal sample.
- ASD: n = 32; TD: n = 35
- Six parent-child play sessions analyzed for each child (T1-T6), each four months apart
- Groups matched on expressive language at T1
- ASD mean age at T1 = 32.85 months
- TD mean age at T1 = 20.26 months
- Videos of play sessions transcribed and coded using CLAN.
- All verbs extracted from each transcript.
- High-frequency verbs = top 10 most frequently produced verbs across groups and visits (go, want, do, open, get, have, see, blow, put, eat)
- Lexical-semantic coding (manner vs. result vs. stative) determined using linguistic diagnostics
- Statistical approach: linear mixed-effects models

Results
- Expressive vocabulary size affects number of verb types produced (p<0.001)
- No effect of group on overall verb types
- Verb vocabulary size (p<0.01) and group (p<0.02) affect proportion of high-frequency verb tokens produced (ASD > TD)
- Interaction between verb vocabulary size and group (p=0.01)
- Children with larger verb vocabularies produce more manner and stative verbs (p<0.001)
- Children with larger verb vocabularies produce fewer result verbs (p<0.001)
- ASD group: lower proportions of result (p<0.013) and stative (p<0.001) verbs than TD group
- Interaction between verb vocabulary size and group for result and stative verbs (p<0.05)

Discussion
- Language level impacts overall verb use in ASD and TD, as well as verb use within high-frequency and lexical-semantic subcategories
- Autistic and TD children do not differ in overall verb use, but group differences do emerge in use of high-frequency verbs and the lexical-semantic composition of verb vocabulary
- Stative verbs (e.g., think, enjoy, trust) often refer to internal states. Group differences in stative verb production could relate to autistic and TD children’s differences in social interaction
- In the high-frequency verb analysis and the analyses of lexical-semantic composition, verb vocabulary size had a larger impact for the ASD group than the TD group
- Future directions: cluster analysis to examine what contributes to heterogeneity of verb production trajectories in ASD and TD; investigate the degree to which high-frequency verb production and/or lexical-semantic verb composition relate to language outcomes

References

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