

PS3S01

Influences of DLD Risk and Internalizing Problems on Bilingual Adolescents' Narrative Productions

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This study investigated the relationships between English-Spanish bilingual adolescents' narrative productions and their risk for developmental language disorder (DLD) and internalizing problems (IP; i.e., anxious, withdrawn, and/or depressive symptoms). Participants were 83 English-Spanish-speaking Latinx adolescents between the ages of 10 and 15. Participants and their caregivers completed a battery of mental health and language measures. When controlling for language experience, age, and sex, risk for DLD predicted lower grammaticality, lower lexical diversity, and more errors in narrative productions, but this was not the case for IP. Rather, risk for IP predicted higher overall productivity and lexical diversity. The implications of these findings will be discussed. This research was funded by the National Institute of Child Health and Human Development (NICHD) Grant R03 HD087648.

PS3S02

Communicating speech-language pathology services: A survey study of parental perceptions and preferences

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Successful communication between speech-language pathologists (SLPs) and parents of children with communication disorders is essential for providing evidence-based practice and may lead to optimized outcomes for children. This study examined parental preferences regarding communications with their child's SLP and their levels of satisfaction. Parents (n = 49) rated statements regarding communication with their child's SLP using an online survey. Analyses indicated that parents of children receiving speech services only (n = 27) and parents of children receiving other SLP services (n = 22) wanted simple explanations for their child's speech and/or language problem. There were significant differences between the groups when considering whether parents and SLPs had the same goals for their child and whether the SLP had thoroughly explained the child's treatment. Parents of children in both groups indicated in-person and email communication was most preferred, while receiving information through mail and support groups was least preferred.

PS3S03

Dissociating verbal mediation and executive function in children with developmental language disorder

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Many children with developmental language disorder (DLD) also have impaired executive function (EF). However, it is difficult to discern whether poor performance on EF tasks is due to weak EF skills and/or ineffective verbal mediation – the use of language through internal self-talk to guide performance. This project aims to dissociate the effects of verbal mediation and EF on shifting task performance in school-aged children with DLD. The effect of verbal mediation is reflected in an increased switch cost when the task is completed with versus without articulatory suppression. The effect of EF is captured in the cue-P3 event-related potential (ERP) extracted from electroencephalography (EEG). Preliminary results show a pattern of increased switch costs for DLD compared to TD. The additional time on switch trials appeared to support accuracy, suggesting effective but inefficient verbal mediation in DLD. ERP results are expected to show increased cue-P3 amplitudes on switch versus stay trials in TD only, indicating stronger EF in TD. Final results will have implications for interpreting clinical assessments and the development of EF interventions. This work is funded by NIDCD F32DC020095.

PS3S04

Early Stages of Design Research Project with Specialist Teachers of the Deaf or Hard of Hearing

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Specialist teachers support students who are Deaf or Hard of Hearing (DHH) in the classroom. Curriculum-based assessment and intervention tools are needed in order to foster these students' language and literacy development, but these tools are often lacking. Educational Speech-Language Pathologists (SLPs) have expert knowledge in speech/language development, assessment, and intervention and are well placed to support specialist teachers in providing educational services to students who are DHH. We aim to develop a bespoke tool for use by specialist teachers in the assessment of curriculum-based spoken language in DHH students. In the initial phase of the project, 3 focus groups and 1 site visit were completed to gather information regarding participants' needs in a curriculum-based assessment. A further focus group was held after initial piloting. Four curriculum-based assessment components were designed targeting each of vocabulary, morphology, sentential syntax, and discourse. After piloting with students, participants made suggestions for revising each component. Revisions of the bespoke tool are currently underway based on participant feedback. Funding provided by Social Studies and Humanities Research Council of Canada #890-2017-0072.

PS3S05

Spectrally degraded speech leads to increased and expanded competition in children's spoken word recognition

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Children with cochlear implants discriminate phonemic contrasts less reliably than peers with typical hearing when contrasts rely on perception of spectral acoustic features (place), but not when contrasts rely on temporal cues (voicing). The present study investigates how speech perception differences contribute to delays in spoken word recognition with a spectrally degraded signal. Thirty-nine 9- to 13-year-old children with typical hearing listened to noise-

vocoded spoken words and selected pictures in an eye-tracking study. Each target word (e.g., saddle) appeared in three conditions: 1) No-Competitor trials with no phonologically similar words, 2) Cohort trials with one cohort competitor (sandwich) and two unrelated distractors, and 3) Contrast-cohort trials with a competitor word with an initial consonant differing by a phonetic feature, followed by a shared vowel (shadow). Contrast-cohorts differed from the target by place (/t/ vs. /k/ or /s/ vs. /ʃ/) or voicing (/k/ vs. /g/ or /p/ vs. /b/). Children demonstrated increased and expanded cohort competition for contrasts that rely on perception of spectral cues, but not those that rely on temporal cues. Funded by NSF [BCS-2141399, DGE-1449815] and NIDCD [1F31DC020120-01].

PS3S06

Comparison of the Test of Pragmatic Language – Second Edition and the Children’s Communication Checklist - Second Edition in Girls with Autism Spectrum Disorder and Average IQ

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Commonly used pragmatic language assessments include samples predominately of males during the standardization process. Thus, these assessments may fail to adequately capture pragmatic language deficits of girls with ASD at an acceptable level. We administered the Test of Pragmatic Language – Second Edition (TOPL-2) and the Children’s Communication Checklist - Second Edition (CCC-2) to girls with ASD and average IQ and girls who are typically developing (TD). The relationship amongst participants’ scores on the TOPL-2 and CCC-2 and the classification accuracy of both measures were examined. Thirty-seven girls were included (18 ASD, 19 TD). The groups matched on age, IQ, and core language. TOPL-2 and CCC-2 scores were not significantly correlated for either group. Utilizing the cut-off scores in the test manuals, both measures demonstrated low sensitivity. Using the empirically derived cut-off scores, the CCC-2 demonstrated acceptable classification accuracy, whereas the TOPL-2 did not.

This research was funded by the Jack H. Rubinstein Foundation for Individuals with Developmental Disabilities at Cincinnati Children’s Hospital Medical Center and awarded to Jenny M. Burton.

PS3S07

Systematic Review of Clinical Guideline Documents for Speech-Language Pathologists Working with Autistic Children

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Rationale: Clinical guideline documents can be effective for promoting equitable, evidence-based, and high-quality service delivery. Existing guidelines for speech-language pathologists (SLPs) who support autistic children have yet to be critically appraised to ensure that they can adequately support clinical decision making and practice.

Methods: We conducted a systematic review of the quality and content of guidelines for SLPs who provide assessment and intervention services for autistic children. Guidelines were appraised using the AGREE II tool. Content analysis was conducted to compare practice recommendations, identify inconsistencies, and highlight areas that need to be addressed in future guideline development.

Results: Three guideline documents met inclusion criteria. Overall, rigor of their development was weak, with clinical recommendations across documents differing in both content and specificity. All guidelines failed to meaningfully include the lived experiences of autistic people and their families in their development.

Conclusions: There is a need for autism-specific guidelines for SLPs that are rigorously developed, informed by current research, clinically actionable, and created in partnership with communities.

Funding: This work was funded by an Ontario Autism Program Workforce Capacity Grant.

PS3S08

30 Years of Not Doing Enough: A Scoping Review of DLD and Written Language

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This study presents a scoping review of available literature from 1991 to 2022 focused on the presentation of written language abilities of individuals with developmental language disorder (DLD) from early childhood to adulthood. Seventy-four studies in this span were identified as examining written language skills in children, adolescents, and adults with DLD. Results of this review suggest that spelling is an area of relative weakness for individuals with DLD across the lifespan. Children and adolescents with DLD may have weaknesses in grammar, cohesion, and length of writing samples. Notably, adults with DLD are significantly understudied, with research to date focusing primarily on spelling abilities. The body of research on written language abilities is limited, and several knowledge gaps were identified that must be addressed to bolster speech-language pathologists' and educators' ability to provide evidence-based support to individuals with DLD who struggle with writing. Furthermore, only two studies in this review focused on typed writing, highlighting a significant gap in our understanding of potential differences between typed and handwritten texts.

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PS3S09

Complex Syntax Methods of Assessment: Relative Clauses

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Some children struggle with relative clauses, a type of complex syntax, which may impact their academic performance. Assessments that measure children's relative clause skill are thus needed. We compare two sentence imitation tasks and one elicitation task, common assessments in the research literature, in typically developing preschoolers. A significant between-group difference for the 3- and 5-year-old groups (in addition to medium to high effect sizes for the other age groups) on all tasks was found. There were no statistically significant within-group differences between the straight imitation task (SIT) and toy elicitation task (TET). The SIT, which appeared to yield similar results to the TET, may provide an equally valid measure of relative clause production. Additionally, the SIT may be able to capture growth over the years, given the age effects observed. The research described was supported by CTSA award No. UL1 TR002243 from the National Center for Advancing Translational Sciences. Its contents are solely the responsibility of the authors and do not necessarily represent official views of the National Center for Advancing Translational Sciences or the National Institutes of Health.

PS3S10

Morphosyntactic profiles of autistic boys and boys with fragile X + autism: A person-centered analysis

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Many autistic boys and boys with Fragile X syndrome (FXS) and co-occurring autism demonstrate morphosyntactic deficits. Morphosyntactic difficulties impair communication abilities and influence a child's ability to communicate effectively and participate in academic and social activities. It is critical to understand the extent and nature of morphosyntactic challenges to improve the effectiveness and efficiency of morphosyntactic interventions for these clinical groups. The current study used a two-step cluster analysis to examine the extent to which individual differences exist in boys with FXS + autism and autistic boys' morphosyntactic abilities. Participants included 16 boys with FXS + autism and 20 autistic boys between the ages of 9 and 18 years. Implications related to improving morphosyntactic interventions will be discussed.

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PS3S11

Accuracy and Productivity of Articles and Direct Object Clitics in Bilingual Children With and Without DLD

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In the assessment of Spanish-English bilinguals, research has identified articles and direct object clitics as two grammatical markers of Developmental Language Disorder (DLD). Analysis of children's productions of articles and direct object clitics reveals information on a child's language ability in Spanish (Castilla-Earls et al., 2020). The current study aims to further investigate the clinical utility of articles and direct object clitics in the assessment of Spanish-English bilingual children with and without DLD by comparing the accuracy and productivity of these grammatical markers during spontaneous language samples. Productivity, the breadth and diversity of children's productions of grammatical markers, has been shown to yield group differences between children with and without DLD (Gladfelter & Leonard, 2013). In the current study, we examine the productivity of articles and direct object clitics in the language samples of 32 children. Preliminary analyses show that all children in this study demonstrate a high accuracy of articles and direct object clitics and that productivity is useful for capturing the emerging language abilities of these young bilingual children. This work was funded by an NIH F31 fellowship (1F31HD111303-01).

PS3S12

Balancing standardization and ecological validity in the measurement of social communication intervention outcomes

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Communication outcomes in caregiver-mediated interventions are inconsistently measured, with varying assessment settings, materials, and activities. Using standardized toy sets to measure intervention outcomes may not reflect the activities and materials prioritized by or available to all families participating in interventions, contributing to inequities in research methods. This within-subjects study of 22 autistic toddler-mother dyads investigates how mother and child communication outcomes differ between home and standardized interactional contexts, following an 8-week caregiver-mediated telehealth intervention. Child outcomes (total spontaneous directed communicative acts) and caregiver outcomes (fidelity of using responsive communication facilitation strategies) were measured during two interactional contexts using: (1) family-selected materials/activities, and (2) a standardized toy set. Complete results are forthcoming but preliminarily indicate that caregiver fidelity of communication facilitation strategies and child communication outcomes did not significantly differ between home and standardized interactional contexts. These results contribute to the measurement of intervention efficacy to ensure that outcome measures are embedded within contexts meaningful to each child's participation in activities of daily living and equitable for all families participating in research. This study was funded by NIH's NIDCD (NCT04501588, DCR014709).

PS3S13

Studies pertaining to language impairment in school-age autistic individuals differently operationalize language impairment: A systematic review

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Purpose: Language in autism is heterogeneous and can co-occur with language impairment (LI). This systematic review examines reporting practices for language skills using age-referenced assessments in autistic individuals, asking:

- 1) What are the reporting patterns of LI in ASD prior to and after publication of the DSM-5?
- 2) How does the literature characterize the language abilities of autistic individuals with respect to LI using age-referenced assessments?

Method: This preregistered systematic review followed PRISMA guidelines. Searches included four databases, records from 1980 to 2022, and three essential concepts: autism, language, and age. Two coders independently screened and evaluated articles, resolving disagreements through consensus.

Results: Of 60 qualifying studies, 25 (42%) addressed LI in ASD. Studies varied in how they operationalized and determined LI status, with no discernible patterns by DSM version. Findings indicated variable language profiles in autistic individuals with and without LI.

Discussion: Inconsistent operationalization of LI underlines the importance of diagnostic and grouping criteria in interpreting research on LI in autism. Limitations and future directions are offered.

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PS3S14

Do Remote-Microphone Systems Support Speech Processing in Noisy Environments for Children with Developmental Language Disorder?

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The classrooms that children occupy often include a good deal of background noise and reverberation. However, children must be able to hear and process speech to learn from classroom instruction. Some children in particular can struggle with processing speech in noise. This includes children who are hard of hearing as well as children with poorer language skills. Remote-microphone (RM) systems have been shown to support the speech processing of children who are hard of hearing. RM systems may also support speech processing in children with developmental language disorder (DLD) given that these children often have poorer language knowledge and verbal working memory skills than their peers. The current study examines the ability of children with DLD (5-12 years) to process speech in noise with and without the support of a RM. We will compare their speech processing performance to peers with typical development matched on age, sex, and maternal education. By identifying whether RMs can support speech processing in children with DLD, we can better support their classroom learning. Funding provided by NIH-NIDCD R01DC013591. RM systems provided by Phonak.

PS3S15

Bilingual Children Demonstrate Shared Knowledge of Narrative Macrostructure in Stories Independent of Exposure

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Rationale: We investigate the relationship between narrative macrostructure and language exposure in Spanish-English bilinguals. Macrostructure knowledge has been claimed to be shared across languages in multilingual individuals, an example of translanguaging.

Methods: Using existing data, we analyzed the macrostructure of Spanish-English bilingual second graders' stories. A linear regression analysis was used to examine the relationship between language exposure and microstructure.

Results: No statistically significant relationship was found between language exposure and macrostructure, except between story structure score in Spanish and Spanish exposure. Post hoc analysis revealed a significant relationship between macrostructure performance in English and Spanish.

Conclusion: Findings are consistent with extant literature that claims narrative macrostructure is shared across languages. Additionally, a supportive Spanish environment benefits the Spanish macrostructure.

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PS3S16

Characterizing the Trajectory of the Shape Bias Across Noun Vocabulary Size in Young Autistic and Non-Autistic Preschool Children

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Shape is a salient object property and one of the first that children use to categorize objects under one label. Colunga and Sims (2017) suggest that noun vocabulary composition and word-learning biases are closely interrelated in typical development. The current study examined the association between noun vocabulary knowledge and perceptual word features, specifically shape and material features. Participants included 272 autistic children and 1,021 non-autistic toddlers who were matched on expressive noun vocabulary size. Nouns were categorized using the Samuelson and Smith (1999) noun feature database. A simple group comparison revealed no group differences in shape bias; both groups evidenced developing noun vocabularies that favored shape+solid and nonsolid+material nouns. However, the trajectory of evidence of shape bias as a function of vocabulary size differed between the groups, with autistic children demonstrating a reduced shape-bias initially. Future work should examine how children's learning biases shift over development and whether the shape bias promotes lexical development to the same degree across groups.

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PS3S17

Pattern-based target selection for treatment of irregular past tense: A single-case experimental design study with children with DLD

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Children with developmental language disorder (DLD) demonstrate difficulty inflecting irregular past tense verbs. We used phonologically-based patterns (i.e., internal vowel change, internal vowel change with a final alveolar consonant, and internal vowel change with a change to the final phoneme) to select targets for treatment of irregular verb inflection. Three 7-year-old children with DLD received this novel treatment in the context of a multiple baseline design across behaviors and participants. Our aim was to determine if this approach would result in acquisition of treated verbs and generalization to untreated verbs within the same phonological pattern. Positive acquisition effects were noted for two of three participants. Generalization to untreated items occurred within and across treatment sets for two participants. Outcomes demonstrated preliminary support for a pattern-based approach to target selection for treatment of irregular past tense verbs. Funding source: Unfunded.

PS3S18

Language switching as a sign of both strength and weakness in children's language and cognitive control skills

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Past studies examining code-switching behaviors in bilingual children have found both language and cognitive control skills predictive of children's code-switching behaviors. In conversations with monolingual speakers of their two languages, children with higher levels of language and cognitive control skills were less likely to produce cross-speaker switches (use a language different from their interlocutor). In the current study, forty-three Spanish-English bilingual parent-child dyads participated in a play-based interaction. Children completed the BESA to index language ability and a flanker task to index inhibitory control. Analyses revealed children with lower language skills and inhibitory control were more likely to produce cross-speaker switches in response to Spanish while children with higher language skills and inhibitory control code-switched more in response to English ($p < .001$). These findings are consistent with prior studies indicating both language ability and cognitive control shape children's code-switching behavior. Directionality of the effects may depend on the pragmatic aspects of an interaction, including whether the child is interacting with a bilingual or a monolingual conversation partner. This research was supported by National Institutes of Health Grants R01 DC016015, U54 HD090256.

PS3S19

Language characteristics in Neonatal Abstinence Syndrome: A longitudinal case study

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Neonatal Abstinence Syndrome (NAS) is a postnatal withdrawal syndrome in children prenatally exposed to opioids. Many of them experience long-term cognitive, behavioral, developmental, and educational challenges and have increased language delays. Because of limited information on the specific language characteristics/development in children with NAS, we conducted this longitudinal case study to start filling this gap in the literature. We present 5 years of longitudinal language data on a male child diagnosed with NAS. Formal language tests were administered and language samples were collected triennially from the age of 2;1, until 7;1 through a university clinic. Standardized assessment results indicated moderate language impairment at ages 2;1 and 3;2. By 3;11, his scores were within 1 SD of the mean. However, language sample analyses and clinical observations continued to indicate considerable language deficits in multiple areas including low MLU, reduced sentence complexity, vocabulary use, increased mazes, and limited narrative skills. We concluded that language sample analyses best described this child's ongoing functional language deficits, despite typical test scores. Further research is needed on language skills in NAS to improve assessment and intervention.

PS3S20

Accommodation to Vocal Pitch in Children with Autism

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Atypical speech prosody represents a crucial diagnostic feature of autism. Speech accommodation, a process of adapting to the speech characteristics of another talker, is a common phenomenon in typically developing (TD) adults. However, little is known regarding whether autistic children, who have atypical prosodic profiles and social communication skills, also spontaneously accommodate to others' speech. Thirty 5-to-10-year-old autistic children and 30 age-matched TD children repeated sentences after two model talkers either speaking with

their original pitch or with artificially raised pitch. Acoustic analysis revealed that only the autistic children displayed evidence of pitch accommodation. In a follow-up experiment, 25 TD children were explicitly asked to copy the voice of the talkers; here, they showed a similar degree of pitch accommodation to the autistic children. We discuss results in the context of developmental patterns of speech accommodation and suggest autistic children might be more likely to accommodate to pitch changes due to differences in their sensitivity to the communicative function of speech, and to the slightly less typical-sounding voice of the higher-pitch model talker. This research is sponsored by NIDCD (R21DC017576).

PS3S21

What are the factors affecting reading comprehension abilities in Reading Comprehension in Children with Developmental Language Disorders? A Systematic Review

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Individuals with developmental language disorders (DLD) had higher rates of reading comprehension difficulties. One of the reading comprehension models, the Active View of Reading (AVR; Duke & Cartwright, 2021) features several advantages over other models; namely, it includes instructionally malleable factors, it accounts for the overlap between word recognition and language comprehension using bridging processes, and it incorporates active self-regulation to represent the cognitive aspect of reading. Given the model is proposed based on typically developing children, this current systematic review is needed to explain whether there are any other potential factors affecting the reading comprehension abilities in children with DLD. After electronic database search and journal hand-search, 45 studies were included and further coded. While the result aligned with the AVR model, there were three other factors affecting reading comprehension abilities in children with DLD, namely expressive language (oral and written), question types of reading assessment, and language disorder history. In addition, mixed findings were noted on phonology. The result suggests that clinicians can consider more components than the AVR model when evaluating reading comprehension abilities in children with DLD. No funding information.

PS3S22

Predictors of Language Treatment Progress in Bilingual Children with Developmental Language Disorder

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Children with developmental language disorder (DLD) overall benefit from language treatment; however, the extent of the treatment response varies across individuals. In order to examine this variability, we systematically reviewed articles that studied possible predictors of individual treatment outcomes in children with DLD. This study focused specifically on treatment outcome predictors for bilingual children with DLD. Therefore, we selected articles from the overall systematic review that involved bilingual children, yielding four articles, and extracted key details. The results indicate first language (L1) skills are substantial predictors of both L1 and second language (L2) outcomes after language treatment. In addition, several individual factors, such as age, gender, and cognition, were associated with L1 outcomes. Our results support the

importance of maintaining L1 skills in bilingual children to further advance in their both L1 and L2 skills.

Funding source: University of Minnesota internal funding

PS3S23

An examination of the relationship between early vocal production and later language abilities in young children with cerebral palsy

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Children with cerebral palsy (CP, the most common neuromotor developmental disorder) are at significant risk for both speech motor and language impairments; however, few studies have studied language abilities in this population, especially under 24 months. The study of prelinguistic vocalizations offers promise as a potential predictor for speech and language developmental trajectories. In 21 infants with CP (11 female), we compared their prelinguistic vocal production during ~15-minute laboratory parent-child interactions around 12 months to later language performance around 24 months. Vocalizations were coded using the Stark Assessment of Early Vocal Development (SAEVD). Later language performance was measured using the MacArthur-Bates Communication Development Inventory-III (CDI). To gauge the association with speech motor performance, we also compared vocal production to later speech abilities using an intelligibility screener around 36 months of age. Implications of neurological damage on language and speech motor performance in clinical populations at risk for motor impairment will be discussed. Funding support for this project was provided by the ASHFoundation, NIDCD (R01DC015653) and the NICHD (T32HD007489 and U54HD090256).

PS3S24

Linguistic Alignment Among Mother-Child Dyads and Links with Autism Traits

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Autistic boys and boys with fragile X syndrome and a co-diagnosis of autism spectrum disorder (FXS+ASD) exhibit similar pragmatic language impairments. Similarities in pragmatics are also observed among mothers of children with FXS and/or ASD. Linguistic alignment is one measure of pragmatics that reflects commonalities in spoken language between speakers. The present study examined group comparisons in linguistic alignment and associations with ASD-related traits in boys with FXS+ASD, autistic boys, and their mothers. Linguistic alignment was derived from transcripts of conversations between mother-child dyads. Groups did not differ in linguistic alignment. Whereas linguistic alignment was associated with child ASD-related traits in mother-child dyads from the ASD group, it was associated with maternal ASD-related traits in FXS dyads. Findings have implications for the role of linguistic alignment in pragmatic language interventions, particularly in consideration of parent-mediated approaches.

PS3S25

Working memory and its relation to language skills in children with developmental language disorder

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We examined how sentence imitation is related to language ability (indexed by elicited production and sentence comprehension) and working memory (phonological short-term memory and central executive, examined by nonword repetition and listening span). The target sentences for language tasks included relative clauses and simple sentences with adjectival nominal phrase. Sixty-three Czech children with developmental language disorder (6;5-9;6) and language-matched controls (3;7-6;7) participated. Regression analysis showed that the control children were more proficient in sentence imitation, that the relative clauses were more difficult, and that the number of errors decreased with better scores in listening span, nonword repetition, and sentence comprehension in both groups. The effect of elicited production on sentence imitation was stronger in the typically developing children. Overall, the results indicate that sentence imitation measures language skills and it also reflects the phonological and working memory.

PS3S26

The Development of Morphosyntax and Vocabulary in Bahamian Creole English Speaking Preschoolers

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Morphosyntactic features of Bahamian Creole English (BCE), a natural language in The Bahamas, have been evaluated in adult language; however, we lack information on typical BCE morphosyntactic development in children. This study evaluated typical morphosyntactic development in BCE-speaking children ages 3-5 years old. Children's development of BCE morphosyntactic features were evaluated using three different language sampling tasks: a 10-minute play-based conversation, a story retell using the wordless picture book *Frog Goes to Dinner*, and a story tell using the School-age Language Assessment Measures (SLAM) cards. Descriptively, preschool-aged children are producing some, but not all, of the BCE morphemes identified in adult speakers' productions. Results also showed that the type of language sample task administered matters, as the number and types of morphosyntactic features children produced differed by task type. Specifically, children produced the most BCE morphemes during the conversational language sample. The findings of this study have implications for guiding culturally-sensitive practices. Funding for this study was awarded to the first author by the Syracuse Office of Undergraduate Research and Creative Excellence.

PS3S27

The Role of Cognitive Skills in Children's Statistical Learning Outcomes

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High variability around a learning target facilitates children's learning outcomes in language interventions informed by principles of statistical learning. However, not all children show positive outcomes to these interventions. Attention and working memory are posited to underlie statistical learning, but the extent to which they contribute to outcomes in high variability statistical learning paradigms is unknown. The current study uses a correlational design to examine the extent to which attention and working memory contribute to children's learning outcomes in a high variability, statistical learning paradigm. Participants are 5- to 6-year-old children. Computer-based experimental tasks measure their attention, working memory, and

statistical learning abilities. Multiple linear regression is used to determine the extent to which attention and working memory predict learner outcomes on the high variability, statistical learning task. Results may have implications for whether these cognitive skills should be considered in the development and optimization of high variability, statistical learning-based language interventions.

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PS3S28

The Complex Syntax Vocabulary of Five-Year-Old Children with and without Specific Language Impairment

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Children with specific language impairment (SLI) have been shown to have deficits in complex syntax (CS) production. However, further research is needed to develop a full picture of the complex syntax produced by children with SLI. For example, children with SLI may have difficulty acquiring vocabulary that supports complex syntax production. In our study, we analyzed later-appearing complement-taking verbs (CTVs), such as decide and wonder, and later-appearing subordinate conjunctions (SCs), such as unless and after. We compared the later-appearing CTVs and SCs produced by five-year-old children with SLI (n = 11) to the later-appearing CTVs and SCs produced by same-aged peers with typical language development (n = 11). Our findings suggest that five-year-old children with SLI produce a lower proportion of later-appearing CTVs in their spontaneous spoken language than same-aged peers. However, children with SLI did not produce a lower proportion of later-appearing SCs than same-aged peers. We then explored the clinical implications of these findings. The study was supported by a Preparation of Leadership Personnel grant from the US Department of Education (H325D140087).

PS3S30

Predictive strength of AEP-age across language outcomes: An exploratory quantile regression study

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Recent work is establishing that auditory cortical maturation (or AEP-age) is a predictor of language. We extend these findings by using quantile regression to address the question of “How well does AEP-age predict language outcomes for children who have below-average, average, and above-average language scores?” while avoiding creating arbitrary subgroups. Although linear regression results indicated AEP-age as a predictor of language skills on average, quantile regression analyses provided more precise estimates of the relation. After controlling for chronological age, AEP-age was uniquely and strongly related to overall language and receptive language for children with lower language – weak and average abilities – than higher language. AEP-age did not predict expressive language across the quantiles. Beyond relying on average

effects estimated from linear regression, quantile regression can advance our understanding of the role of auditory maturation across a spectrum of language outcomes.

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PS3S31

Sentence recall accuracy at the limits of young adult word spans: Contributions of metacognitive judgments and sentence conditions

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Sentence repetition is a useful diagnostic task for developmental language disorder (DLD) but current tasks are insufficiently accurate for adults. Prior work indicates that participant differences may be revealed when memoranda are at the limit of examinee capacity, when examinees feel uncertain about their recall accuracy. To identify sentences that challenge adults at the limits of their capacity, we asked participants to repeat sentences and judge their recall accuracy. Sentences were 8-16 words, 1-3 clauses in active or passive structures, controlled for word frequency and plausibility. Number of words ($F(2,1) = 42, p < .001$) and judgments of accuracy ($F(2,1) = 177.7, p < .001$) predicted repetition accuracy, but number of clauses and structure did not. Variability in judgements of accuracy peaked at sentences with 11 words, and beyond 11 words, recall accuracy precipitously declined. The lack of recall accuracy difference by active versus passive structure was unexpected. Sentences centered on 11 words may approach adults' capacity limit for recall, eliciting more uncertainty regarding the accuracy of their performance. Funding provided by Miami University.

PS3S32

Caregivers' Perceptions of COVID-19 Educational Disruptions on Children with Developmental Language Disorder and Typically Developing Peers

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The COVID-19 pandemic caused widespread educational disruptions across the United States, particularly for children with disabilities. Children with developmental language disorder (DLD) and their families saw drastic changes to educational supports during the rapid pivot to virtual learning. This qualitative study examined the experiences of caregivers of first- and second-grade children with DLD and of typically developing children during educational disruptions. We gathered written responses to open-ended survey questions regarding impacts on the child's education, language learning, literacy learning, and the family in general. We conducted separate thematic analyses by group. Themes for both groups included concerns about literacy learning

and social-emotional well-being. Also, caregivers described learning about their child during remote learning. Caregivers of typically developing children described facilitators and child resilience despite adverse circumstances, whereas caregivers of children with DLD described remote learning as inherently problematic. Findings are discussed in terms of practical implications for supporting families of children with DLD during pandemic recovery and beyond.

PS3S33

An examination of mediators of socioeconomic status effects on literacy, language, and emotion competencies

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This study examined mediators of home literacy environment (HLE) on children's literacy, language, and emotional knowledge. We sample 540 children from classrooms participating in a larger, drama-based instruction study. We examined whether an indirect pathway between SES (family income-to-needs ratio) and child literacy, language, and emotion competencies could be established through HLE (number of books in home) and children's storytime behavior (interest, embodiment, emotional response). A structural equation model was estimated, with Narrative Language Measure, Bilingual English Spanish Assessment, and Emotion Matching Task regressed on child behavior during reading, regressed on HLE, regressed on with SES. Model fit was good. Results demonstrate a significant indirect pathway from SES through the number of books and child interest during reading to language development and emotional knowledge. Contrary to our theoretical expectations, embodied behavior during book reading was not associated with the language or emotional knowledge outcomes.

This work was supported by a Department of Education Assistance for Arts Education Development and Dissemination grant [grant number U351D1800962].

PS3S34

The Efficacy of Story Champs for Improving Oral Language in Third Grade Spanish-English Bilingual Students with Developmental Language Disorder

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Narrative language interventions have shown promise for improving the oral language of children with developmental language disorder (DLD). The oral narratives of children with DLD tend to include fewer story grammar elements and more grammatical errors than their peers with typical development (TD). Story Champs (Spencer & Petersen, 2016) has shown positive effects in improving story grammar and grammatical complexity within a multitiered system of support framework for preschool and kindergarten students at-risk for language difficulties (Petersen et al, 2022) and mixed effects in improving story grammar within personal narratives of second grade students with DLD (Hessling & Schuele, 2020). We implemented a multiple baselines across participants single case design to investigate the effects of Story Champs on the story grammar and grammatical complexity of third graders within story retells and personal

narratives. Participants showed mixed effects across dependent variables within both contexts. Results suggest that Story Champs may be beneficial in improving oral language in third grade students with DLD, but students' performance varies widely.

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PS3S35

Identifying the executive functions that contribute to performance on the WCST by children with DLD.

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The aim of this work is to identify executive function(s) in children with Developmental Language Disorder (DLD) that contribute to their impaired performance on a Wisconsin Card Sorting Task (WCST), a task aimed at measuring shifting. DLD is a neurodevelopmental disorder that has a high co-occurrence with impaired executive function (EF) abilities. However, the exact range of EF impairments associated with DLD remains unclear. The WCST is a complex EF task that can help elucidate the effect of and interaction between EFs on performance in children with DLD.

This work includes preliminary data from 19 participants between the age of 8 and 12 (9 DLD; 10 TD). Their scores on the Behavior Rating Inventory of Executive Function – 2nd Edition (BRIEF-2) and the computerized WCST will be the subject of a correlation analysis to determine the contribution of EF measures to WCST performance.

Implications: This study will shed light on the executive functions of children with DLD and the relationship between direct (WCST) and indirect (BRIEF-2) EF measuring tools.

This work is funded by NIH NIDCD Grant R01DC018295

PS3S36

Interactions among Chronic Stress, Statistical Learning, and Language Outcomes

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Chronic stress negatively impacts the development of brain regions that underlie language development. A potential mediating factor against this negative impact is a child's statistical learning, the ability to detect and encode patterns in environmental input. The purpose of this study was to identify how variations in statistical learning interact with chronic stress exposure to impact spoken language outcomes. Monolingual children with typical language development age 6- to 8- years old completed tasks of verbal and visual statistical learning, along with spoken language measures collected via standardized tests and language sample analysis. Parents completed a survey on their socioeconomic status and an adverse life events questionnaire as a subjective measure of chronic stress. Correlational analysis and multiple regression analyses were conducted to determine the relationship among stress, statistical learning, and spoken language. We hypothesize that higher reports of chronic stress will be associated with lower lexical diversity and syntactic complexity, though stronger statistical learning will modulate this effect. Project funded by the Applied Health Sciences Research Grant Program, Saint Louis University.

PS3S37

Acoustic and Pragmatic Properties of Adult Simplified Speech Used in Autism Intervention

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Rationale. Autism interventions commonly recommend that adults produce shortened and/or telegraphic (i.e., ungrammatical) utterances. We lack a clear understanding of the acoustic properties of simplified utterances and the pragmatic contexts in which they are used. This gap in knowledge prevents us from studying the effects of simplified input in an ecologically valid way. Here, we asked: what are the acoustic and pragmatic properties of simplified adult utterances used in autism intervention?

Methods. We analyzed audio samples from an online repository of naturalistic, developmental, behavioral intervention video clips. Using Praat, we examined telegraphic adult utterances and semantically related grammatical or single-word utterances.

Results. Most telegraphic utterances contained no distinct pauses. Findings suggested that adults lengthened content words to varying degrees regardless of utterance type. Adults used telegraphic utterances across pragmatic contexts—particularly when giving directives.

Conclusions. Understanding the acoustic and pragmatic properties of telegraphic utterances will maximize the ecological validity of studies designed to determine how simplified input affects language processing and word learning children on the autism spectrum.

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PS3S38

Dual language profiles in Spanish-English bilingual children with and without DLD

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This study aims to examine different language profiles in Spanish-English bilingual children with and without DLD. Data included 529 children between the ages of 5 and 10 years old. 88 of these children were identified as having DLD based on converging evidence considering indicators of language impairment. A latent profile analysis was conducted based on children's morphosyntax and semantics performance in Spanish and English. The optimal model identified five profiles in this group of children, showing the heterogeneity of bilingual language performance. There was one balanced language and low morphosyntax profile, one Spanish dominant and low morphosyntax profile, two English dominant profiles, and one balanced language and balanced domain profile. Children with DLD were primarily classified in the two profiles with low morphosyntax performance, aligning with the claim that morphosyntax is the hallmark clinical marker associated with DLD. Additionally, the majority of the five-year-old children were classified in the Spanish dominant group, which could reflect their greater home language exposure prior to entering elementary school.

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PS3S40

Using language samples to identify developmental language disorder in 5-6-year-olds: look at the errors

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Language sample analysis (LSA) provides speech-language pathologists with a functional assessment of children's communication skills in a natural setting. One disadvantage of LSA has been the lack of psychometric data for various measures and platforms. This study examined the diagnostic accuracy of LSA measures as a function of four common reference standards for developmental language disorder (DLD). Measures from 50-utterance play-based conversational language samples collected on K-1st grade children (n = 85) with DLD and children with typical language (TL) drawn from a community-based sample were analyzed using Systematic Analysis of Language Transcription (SALT), Sampling Utterances and Grammatical Analysis Revised (SUGAR), and a finite verb morphology composite (FVMC). ROC curve analysis indicated omissions and errors, percent grammatical utterances, and FVMC showed the highest diagnostic accuracy. Overall, LSA measures aligned the most with the CELF-4 reference standard and the least with receiving services. With further refinement, measures that examine errors from short language samples could help confirm DLD status in 5-6-year-old children. Funding source: NIDCD R01DC011023.

PS3S41

An alternative scoring method to reduce bias in nonword repetition for bilingual children

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Nonword repetition tasks have been proposed as a measure to identify developmental language disorder in diverse populations. However, previous studies have shown that bilingual children who speak a non-English language at home might be penalized for production errors influenced by their first language. The current study explores the properties of an alternative scoring system that accounts for the influence of the first language. Ten typically-developing Mandarin-English bilingual children completed a nonword repetition task as well as a battery of additional language assessments. We created an alternative scoring system based on errors predicted by the influence of Mandarin phonology. We then compared properties of the original and the alternative scoring systems, including the relations between nonword repetition task score and other factors (including age, home language exposure and standardized test performances) as well as the score distributions within this group of typically-developing children. Results show that most phonemic errors can be predicted by L1 and the alternative scoring system minimizes the relationship between home language exposure and nonword repetition task score. However, possible ceiling effects represent a disadvantage.