

# SRCLD 2022 Poster Session 1

## PS1F01

### **Lexical Processing in People with and without Dyslexia: A Modality or Lexicality Effect?**

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Dyslexia has been characterized by reading difficulties and considered a language disorder or reading disability. In order to explicate the nature of the language-based deficit, this study examines the lexical processing of individuals with or without dyslexia in auditory and visual lexical decision tasks. Thirty-six college-age adult participants completed auditory and visual lexical decision tasks in which they indicated whether they heard or saw a real English word by pressing buttons on a computer keyboard. The stimuli were 20 words and 20 pseudo words that comprised only early-acquired or only later-acquired consonants (Moore, Fiez, & Tompkins, 2017). Individuals with dyslexia were less accurate and slower in processing the nonword items, regardless of modality. Participants with dyslexia took longer to respond in the visual modality than participants without dyslexia. For the auditory task, however, the two groups did not differ in processing time or accuracy. These results suggest that individuals with dyslexia lack fluent decoding skills for pseudo words and the deficit lies more in the visual modality.

## PS1F02

### **Learning new words from video in autistic preschoolers: Overheard vs. addressed speech**

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Rhiannon Luyster; Emerson College

We investigated whether preschool-aged children with and without autism could learn novel words for novel objects over videoconferencing, either when they were directly addressed in a teaching interaction, or when they were bystanders who overheard the teaching interaction. Children with autism ( $n = 53$ , mean age 4;5) and without ( $n = 67$ , mean age 2;4) participated over Zoom in two word learning trials. In the Addressed condition, the experimenter faced the camera and addressed her speech to the child. She presented three novel objects, labeling one of them with a novel noun (e.g., “Let’s see the toma”). In the Overheard condition, she used the same script, but directed her speech to another adult, whom she faced. At test, children saw the three novel objects and were asked to, e.g., “find the toma.” Their eye gaze was coded. The non-spectrum group performed better in the Addressed condition than the Overheard condition, but the autistic group showed no difference between conditions. Thus, autistic children may not have a disadvantage for learning from overheard speech. Funding: NIH R01DC017131

## PS1F03

## **Language abilities of autistic adolescents and young adults with language impairment: A longitudinal case study**

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Mabel Rice; University of Kansas

Little is known about the language abilities in autistic adolescents and young adolescents and young adults with language impairment (LI). This knowledge gap limits accurate diagnosis and development of supports as autistic individuals transition to adulthood. Thus, this study asked: (1) Do participants change over time in their performance on measures of overall language and morphosyntax? (2) Do some language domains show more variation than others? Participants ( $n = 13$ ; 1 female, 11 male) were autistic adolescents and young adults who completed standardized assessments on verbal working memory, working memory, morphosyntax, vocabulary, and overall language once per year for three years. Results showed that group performance and individual performance on measures of overall language and morphosyntax were consistent over time; thus, we subsequently report results from Time 3. All participants qualified for LI (i.e., scored  $= -1.25$  SD on  $= 2$  assessments). Participants showed the most interindividual variation on morphosyntax and had limited receptive-expressive differences, with no one singular profile. Findings underline the importance of comprehensive language assessment for autistic individuals into adolescence. Limitations and future directions will be discussed.

### **PS1F04**

#### **Is Confidence Key? The Effects of Confidence on Implicit Word Learning in School-aged Children with and without DLD.**

Ashley Goussak; Outreach Physical, Occupational, and Speech Therapy

Ashlie Pankonin; San Diego State University / University of California, San Diego

Alyson Abel; San Diego State University

Typically developing (TD) children learn most new words with ease, while research indicates children with Developmental Language Disorder (DLD) have difficulty with this process (Kan & Windsor, 2010). The present study examines how subjectively-reported confidence levels (i.e., high, medium, or low confidence) inform neural representations of implicitly-learned nonsense words for school-age children with DLD and their TD peers. By using electroencephalography (EEG), this study examines real-time brain processing during an implicit word learning task. Specifically, the N400 component, which is sensitive to word learning in school-aged children, was examined to explore brain processing in relation to depth of newly-learned words (Abel et al., 2018). Overall, the results reveal an association between confidence level and neural representation of words for TD children, but not for children with DLD. These results indicate that regardless of their confidence in their ability to learn words, children with DLD consistently present with poorer word learning outcomes and less robust representations of implicitly-learned words.

Funding: National Institute for Deafness and Other Communication Disorders (NIH-NIDCD 1R21DC018865).

### **PS1F05**

#### **Dual Language Profiles among of young Latino children of immigrants: early predictors and exploratory screening for low performing profiles**

Brian Collins; Hunter College, CUNY; Judge Baker Children's Center  
Claudio Toppelberg; Harvard Medical School; Judge Baker Children's Center  
Jiali Xu; Judge Baker Children's Center

Educators and school specialists are often challenged to understand the wide variability of language proficiencies among dual language children. The determinants of language profiles of dual language children—from high bilingual proficiency to low performance in both languages—are poorly understood. This study investigates early child and family factors as predictors of dual language profiles (DLP) and aims to identify children who may be at risk for language delays. Latino dual language children (n=228) were assessed in English and Spanish at kindergarten (mean age = 6) and two years later, in second grade (mean age = 8). Logistic regressions demonstrated that kindergartners with lower English or Spanish phonological processing or non-verbal IQ scores were more likely to have a low performing DLP—a 1-point score drop was associated, on average, with a 4 to 10.8 % higher risk. By combining the most consistent and predictive measures we provide initial evidence to support the development of a much-needed screening protocol for the early identification of children with low performing DLP by practitioners and specialists using a rapid screener. This project was funded by NIMH.

## **PS1F06**

### **Increasing Dyslexia Knowledge in Undergraduates**

Dorothy Tam; University of Georgia  
Hannah Krimm; University of Georgia

Purpose: The purpose of this study is to examine the effect of reading a refutation text on the knowledge of dyslexia among pre-professional undergraduate students.

Method: Undergraduate students in the Communication Sciences and Disorders major at the University of Georgia will be randomly assigned to read a refutation text or a basic text on dyslexia. The refutation text will serve as the experimental group, while the basic text will be the control group. Students will complete a pretest to evaluate existing knowledge on dyslexia prior to reading the randomly assigned article. Students will complete a posttest directly after and a maintenance test four weeks after the assigned activities to determine change in knowledge of dyslexia associated with reading the refutation text.

Expected Results: We hypothesize that the refutation text will facilitate significantly more change than the basic text and that participants' knowledge of dyslexia will remain high at the maintenance time point.

Keywords: refutation text, conceptual change, dyslexia, speech-language pathology

## **PS1F07**

### **A data-driven approach to identifying possible delayed learners using longitudinal MB-CDI data in two datasets**

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Arielle Borovsky; Purdue University  
Donna Thal; San Diego State University  
Jed Elison; University of Minnesota

Our goal was to study early identification of language disorders by measuring longitudinal trajectories of vocabulary size and syntactic ability (i.e. content and function words). We performed latent class analyses (LCAs) on two MB-CDI datasets, one of which contained diagnostic status (Dx) for a subset of participants. Estimating only on total inventory, the overlap in trends between Dx+ and Dx- was too large to assign a “potential diagnosis” group. However, performing separate LCAs on content vs. function word inventory was more informative. While the majority of participants were assigned to equal-rate classes, a small number were assigned to classes with large or small functional inventories for concrete inventory size. A significant group of Dx+ participants appeared in a class which included 43 participants from the other dataset, only 7 to 11 of whom would have been otherwise identified with the Delay 3+ criteria. Participants in this group had significantly lower Mullen receptive ( $d=.66$ ) and expressive ( $d=.49$ ) language scores. These findings provide some avenues for early identification of language delays in longitudinal samples.

### **PS1F08**

#### **Identifying and Describing Developmental Language Disorder (DLD) in Children**

Alyssa Kuiack; Western University

Lisa Archibald; Western University

In 2016/2017 consensus was established regarding use of the diagnostic label developmental language disorder (DLD) to describe children exhibiting persistent language problems having a functional impact on communication or learning and in the absence of any biomedical condition. Despite this consensus, research has revealed continuing uncertainty regarding application of this label among speech-language pathologists (SLPs). In response to this uncertainty, a survey of SLPs was conducted to investigate the clinical language profiles and associated assessment results viewed as warranting the label DLD. SLPs ( $n=224$ ) were presented with ten childhood language profiles and assessment results. Participants reviewed each case and described if they felt a diagnosis of DLD was warranted, which presented symptoms were consistent/inconsistent with DLD and if further information/testing was needed. Additionally, participants provided details regarding their personal diagnostic processes. Results indicated general consensus regarding application of the DLD label. However, qualitative analysis revealed substantial variation in diagnostic processes and clinical decision making. This wealth of data provides critical insight into the challenge of building practice consistency in the identification of DLD especially in cases of complex language profiles.

### **PS1F09**

#### **Grammaticality Judgments of Tense and Agreement (T/A) by Child Speakers of African American English: Effects of Clinical Status, Surface Form, and Grammatical Structure**

Lori Vaughn; Louisiana State University

Janna Oetting; Louisiana State University

Rationale: We examined the grammaticality judgments of children with and without Developmental Language Disorder (DLD) within African American English (AAE) to learn more about their tense and agreement (T/A) systems. The children’s judgments also were examined by surface form (overt vs. zero) and grammatical structure (T/A and non-T/A). Methods: The data were from 91 AAE-speaking kindergartners (DLD = 34; typically

developing, TD = 57) who lived in the rural south. The data were analyzed twice, first with A' values based on General American English (GAE) and then with percentages of acceptability based on AAE. Results: A' values based on GAE led to chance performance for both groups. In contrast, percentages of acceptability based on AAE led to differences for clinical group, surface form, and grammatical structure, with the TD group accepting AAE-appropriate T/A overt forms at higher percentages and showing greater discernment between the AAE-appropriate and inappropriate T/A forms than the DLD group. Conclusion: The findings contribute to a growing literature base that shows the DLD grammar profile in AAE to include weaknesses in T/A. External Funding: NIDCD RO1DC009811.

### **PS1F10**

#### **From Plan to (Printer) Paper: How Does DLD Affect the Writing Process for College Students?**

Alexander Tucci; University of Arizona

Elena Plante; University of Arizona

Becky Vance; University of Arizona

This work is part of a larger study that sought to fill a critical gap in our understanding of functional outcomes for college students with developmental language disorder (DLD). We explored how students with and without DLD differ in written output across handwritten and typed modalities, planning strategies for writing, and revision behaviors when writing. Fifty college students (25 with DLD and 25 with typical language (TL), M-age = 19) completed expository writing samples in typed and handwritten conditions. Samples were coded in SALT for grammatical complexity, errors, and use of clause and sentence structure. Revisions were coded via participants' completed handwriting and video recordings of their typing. Planning behaviors were compared via self-reported survey data. Preliminary analyses suggest typing may be a more functional modality for measuring students' writing abilities. Students with DLD may use more visual planning strategies than their peers with TL. Results of this work will be used to inform functional writing assessment and intervention for young adults with DLD. This project was partially funded by a UArizona GPSC Research and Project Grant.

### **PS1F11**

#### **Facilitating Language Comprehension in Adults with Intellectual or Developmental Disability**

Meredith Saletta Fitzgibbons; Northwestern University

Amy Stein; Northwestern University

Omar Khan; The Douglas Center

Rationale: Facilitating language comprehension may be accomplished via: (1) orthographic support, (2) illustration support, and (3) multimodal participation. The purpose of this study was to determine whether any of these supports would facilitate listening comprehension in adults with intellectual or developmental disability (ID).

Methods: Researchers read four stories aloud to 26 adults with ID. One condition involved passive listening; the other three conditions involved the above supports. Following each story, participants answered open-ended comprehension questions. Participants' reading and

visuospatial skills were quantified. Participants also indicated which condition they enjoyed the most.

Results: Only participants with ID and strong reading skills benefited from orthographic support and multimodal participation. Illustration support did not appear to be an effective strategy. Half of all participants indicated that they enjoyed the passive listening condition more than the other conditions, perhaps because of its lower demands.

Conclusions: It is crucial to base pedagogy on methods which have empirical validity, and for educators to adapt their instruction to learners' individual strengths and preferences.

Funding source: Midwestern University Speech-Language Pathology Program (Downers Grove, IL) departmental funds.

## **PS1F12**

### **Exploring Parent Input from a Multidimensional Perspective**

Tracy Preza; University of Illinois Urbana-Champaign

Pamela Hadley; University of Illinois Urbana-Champaign

This study investigated how responsive and linguistic parent input features are related to children's later production of diverse, simple sentences. Responsive, simple declaratives in input at 1;9 were hypothesized to positively relate to children's sentence diversity at 2;6. Input features were coded during naturalistic free play interactions for 20 parent-toddler dyads. At 1;9, all toddlers were typically developing with an average mean length of utterance of 1.17 (SD = 0.19). Parent utterances were classified into four input categories: (a) responsive utterances, (b) simple declaratives, (c) responsive declaratives, and (d) neither simple declarative nor responsive. The percentage of utterances in these categories was related to child sentence diversity at 2;6. Responsive declarative and simple declarative utterances were rare, whereas the other categories were common. Using spearman-rho correlations, the percentage of responsive parent input utterances was positively related to child sentence diversity outcomes, whereas the percent of neither was negatively correlated with child sentence diversity outcomes. Responsivity continues to play a facilitative role as toddlers begin producing sentences. Recommendations for enhancing input quality from a multidimensional perspective will be discussed.

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## **PS1F13**

### **Exploring Links Between Language and Cognition in Toddlers with Autism Spectrum Disorder: Lexical Processing as a Mediator**

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Jan Edwards; University of Maryland

Jenny Saffran; University of Wisconsin-Madison

Susan Ellis Weismer; University of Wisconsin-Madison

Prior research suggests a clear link between language and cognitive abilities in both neurotypical and autistic populations. To date, the precise mechanisms which underlie this link remain an open question. In the present study, fifty-two toddlers with autism spectrum disorder (ASD) participated in both standardized assessments as well as an established looking-while-listening eyegaze task to provide an implicit measure of language processing, at age 2 ½ and 3 ½.

Mediation analyses revealed that lexical processing abilities at Time 1 accounted, in part, for the

longitudinal link between early expressive language abilities, and expressive language abilities one year later. These findings suggest that children's early online language processing supports their continued expressive language development. Additionally, lexical processing ability significantly mediated the relationship between cognitive ability at Time 1 and both receptive and expressive language ability at Time 2. Findings suggest that higher-order cognitive functions play a role in autistic children's early lexical processing abilities, which in turn support their broader language development. This investigation contributes to our growing understanding of the complex relationship between language and cognition in ASD. This work was supported by NIH R01DC012513 and NIH R01DC017974.

### **PS1F14**

#### **Conversational Repairs in Reminiscing: An investigation into the repair strategies employed by parents and children with language disorder.**

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Ryan Nelson; University of Louisiana, at Lafayette  
Jack Damico; University of Colorado, Boulder  
Holly Damico; University of Louisiana, at Lafayette  
Laura Arrington; University of Louisiana, at Lafayette  
Maura Kitto; University of Wisconsin, Eau Claire  
Emily Stover; University of Wisconsin, Eau Claire  
Abigail Joski; University of Wisconsin, Eau Claire

Research has shown parent-child reminiscing conversations facilitate both cognitive and language development among typically developing children. While research on reminiscing with children diagnosed with a language disorder is sparse, experts in speech language pathology and related fields advocate for its therapeutic potential. The goal of this study is to examine the communication breakdowns and repairs that occur between parents and their preschoolers during reminiscing. We use inductive methods of analysis to examine similarities and differences between the elicited reminiscing conversations of two groups of parent-child dyads—one including children with a diagnosed disorder impacting language function and one with typical developing children. Results describe patterns of repair strategies that parents and children employ to further reminiscing conversations. Knowledge of these patterns will better prepare clinicians to make use of reminiscing as a part of intervention.

### **PS1F15**

#### **Comprehension of Unscripted Parent Narratives in Autistic Children: An Exploratory Eye-tracking Study**

Vishakha Shukla; New York University  
Angela Xiaoxue He; Hong Kong Baptist University  
Sudha Arunachalam; New York University

Autistic children show narrative comprehension differences in tasks that pose high response demands but little is known about whether these differences are a result of failure to follow narratives at a basic level, or due to the task demands. Using eye-tracking, we explored autistic and nonspectrum children's visual attention as they listened to narratives produced by their parents. Based on the findings that autistic children produce more off-topic comments in their

narratives, we expected them to also focus more on irrelevant narrative elements. Additionally, given that parents tailor their input to their children's language abilities, we expected parents of autistic children to adapt their narratives to aid comprehension. The results showed no difference in visual attention between the two children groups and no differences in parent narratives. Thus, narrative comprehension differences in autistic children are not due to failure to follow along with a story. Our study highlights the importance of measures with minimal response demands to obtain a finer picture of autistic children's comprehension skills.

Funding: NIH R01 DC016592

## **PS1F16**

### **Complex Syntax Use in Young Deaf and Hard of Hearing Children**

Camryn Lowe; University of Kansas

Jena McDaniel; University of Kansas

Angie Walker; Kansas School for the Deaf

The aim of this study is to describe how frequently young deaf and hard of hearing (DHH) children use 14 different types of complex syntax. We transcribed and coded language samples from three contexts (play, narrative, conversation) for 42 DHH children (mean age = 42 months). We analyzed productions of complex syntax attempts, use of specific types of complex syntax, and density of complex syntax. The results show infrequent use of complex syntax for the youngest age groups and greater use in older children, as expected. The older participants also used a greater variety of complex syntax forms. Nonetheless, the older participants as a group exhibited complex syntax use below expectations for their chronological age. Evidence of the potential influence of language sample context (i.e., narrative versus conversation) was also observed. Findings from this study will provide accessible guidance for clinicians for evaluating complex syntax use, selecting complex syntax structures to target, and assessing progress. Future longitudinal analyses are planned. This research is supported by a University of Kansas Undergraduate Research Award.

## **PS1F17**

### **Comparing three methods for quantifying change across a kindergarten program**

Theresa Pham, University of Western Ontario

Daniel Ansari; University of Western Ontario

Marc Joanisse; University of Western Ontario

Janis Cardy; University of Western Ontario

Lisa Archibald; University of Western Ontario

Language, reading, and math skills are assumed to grow and develop during kindergarten. In the present study, we conducted an analysis on various kindergarten skills to explore whether students changed from the beginning to end of kindergarten. Experimental tasks measured language, reading, and math skills. We compared different methods of identifying change, namely using the t-test, normalization, and reliable change index methods. We found that t-test analyses captured positive changes across the measures at the group-level, whereas the normalization and RCI methods revealed differences at the individual-level. With the latter methods, each method differed in i) identifying rates of change (normalization: 29-75% of students changed vs. RCI: 0-93% of students changed) and ii) the predictive value of pre-SK

scores (normalization: students with higher pre-SK scores were more likely to improve vs. RCI: students with lower pre-SK scores were more likely to improve). The methods provide starting points for measuring progress in language intervention.

This study was funded by an NSERC Discovery Grant award to Lisa Archibald.

### **PS1F18**

#### **Can early use of be serve as a marker of grammatical development? Evidence from a Czech longitudinal corpus**

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Anna Chromá; Faculty of Arts, Charles University

The verb be is one of the key grammatical elements in many languages. It is usually the most frequent verb, and its acquisition is thus an important milestone in children's language. The present study examines the development of the verb být 'be' in longitudinal transcripts of six children acquiring Czech (aged 1;07 to 4;02). First, we describe the early use of the verb as a copula or auxiliary. Second, we examine whether the usage or diversity of be might serve as a marker of grammatical development. Using cross-lagged mixed regression analyses, we tested the token or type frequency of be predicts MLU in subsequent transcripts, or vice versa. The results show that while MLU is a significant predictor of both token and type frequency of be, the opposite is not true. However, models have identified significant interactions indicating that the early usage and diversity of be-forms may predict higher subsequent MLU, but later on, they are related to lower MLU. This indicates that the be-system is an early developmental achievement that is followed by the development in other domains.

### **PS1F19**

#### **Analyzing the Expressive Syntax Abilities of Deaf and Hard of Hearing Children for Spoken English Using the Index of Productive Syntax**

Nicola Santangelo; University of Kansas

Jena McDaniel; University of Kansas

Angie Walker; Kansas School for the Deaf

Both expressive and receptive syntax have been identified as areas of difficulty for deaf and hard of hearing (DHH) children, but limited evidence is available for the details of those abilities.

This project focused on the English expressive syntax abilities of DHH children measured using the Index of Productive Syntax (IPSyn). We examined the percentage of DHH children that scored within or above normal limits for expressive syntax, the relation between two expressive syntax measures (IPSyn and mean length of utterance in morphemes [MLU]), and the relative strengths and weaknesses for expressive syntax. Language samples from 33 DHH children (mean = 49 months) were coded using the IPSyn and for MLU. Most participants scored below the comparison data on the IPSyn. These results indicate that expressive syntax may be an area of difficulty for DHH children. IPSyn scores correlated with MLU for children at earlier and later stages of syntactic development. Participants scored significantly higher on noun phrases and verb phrases than questions/negations and sentence structures. Support for this project was provided by a University of Kansas Undergraduate Research Award.

### **PS1F20**

### **A word-learning intervention utilizing principles of retrieval-based practice: A single-case design with 4- to 6-year-old children with Developmental Language Disorder**

Katherine Gordon; Boys Town National Research Hospital

Holly Storkel; University of Kansas

Stephanie Lowry; Boys Town National Research Hospital

Mollee Sultani; University of Kansas

Retrieval-based training strategies increase word learning and retention in children with Developmental Language Disorder (DLD) more than passive training strategies. Currently, it is unclear how retrieval-based training should be implemented in interventions targeting real words with abstract meanings (e.g., Tier 2 words). In the current single-case design, 4- to 6-year-old children with DLD completed an 8-week intervention in which they were taught Tier 2 words via retrieval practice. Learning was measured at the completion of the intervention and after 2-week and 8-week delays. Most children exhibited a good response to intervention. Children demonstrated learning in that they slowly modified responses throughout the intervention and retained word information post-intervention. However, in some cases they perseverated on incorrect responses during training. In contrast to past work, children demonstrated better learning and retention of forms than meanings. Principles of retrieval-based learning should be implemented in interventions as they contribute to successful learning and retention. Through further research, we can continue to refine intervention effectiveness with Tier 2 words.

### **PS1F21**

### **A Systematic Review of Long-Term Outcomes from Early Childhood Communication Interventions**

Natalie Pak; Vanderbilt University

Kelsey Dillehay; Vanderbilt University

Caroline Wilkerson; Vanderbilt University

Jason Chow; University of Maryland

Ann Kaiser; Vanderbilt University

Early childhood language and communication interventions have been shown to be effective, but the long-term effects of these interventions are less understood. The purpose of the current systematic literature review was to describe the features, effects, and rigor of early communication intervention studies with long-term timepoints. We conducted an online literature search and coded important study features. We identified 17 intervention studies with unique participant samples. Outcomes of interest were measured 3–71 months post-intervention. The size and significance of long-term intervention effects varied by study, outcome, and timepoint, but most studies reported at least one intervention effect that was significant at a long-term timepoint. Many effect sizes decreased by later timepoints. We identified several frequently occurring risk of bias issues in these studies. Future research should focus on measuring long-term outcomes and related variables within sound research designs to contribute to development of interventions with lasting effects. This research was funded in part by an OSEP Doctoral Leadership Training grant #H325D180095 (A Kaiser, PI) and a graduate training fellowship from Peabody College at Vanderbilt University.

### **PS1F22**

## **A Study of Conjoined Independent Clauses by Dialect, Clinical Status, and Age: Implications for Language Sample Transcription**

Tahmineh Maleki; Louisiana State University

Janna Oetting; Louisiana State University

Rationale: Transcription of conjoined independent clauses within language samples varies across professionals. Some leave these clauses together, while others break them into two utterances. To learn more about this transcription decision, we examined the number of conjoined independent clauses produced by children and the impact of these clauses on their MLUs by the children's dialect, clinical status, and age. Methods: The data were 236 language samples from children who spoke either African American English or Southern White English and who were classified as either 6-year-olds with DLD, 6-year-olds with TD, or 4-year-olds with TD. Results: The number of conjoined independent clauses and the impact of these clauses on the children's MLUs varied by their clinical status (DLD < TD) and age (TD4 < TD6) but not their dialect. Conclusion: Transcription decisions regarding conjoined independent clauses within samples lead to equitable effects on MLU across dialects. Nevertheless, breaking conjoined independent clauses into two utterances may reduce one's ability to detect syntactic differences between children with and without DLD and syntactic growth as children age.

### **PS1F23**

## **A Single-Case Experimental Investigation of Sketch and Speak Expository Intervention for Adolescents with Language-Related Learning Disabilities via Telepractice**

Amy K. Peterson; Utah State University

Teresa Ukrainetz; Utah State University

There is a dearth of discourse-level intervention research available to SLPs serving adolescent students (Peterson et al., 2020). This multiple probe multiple baseline across participants single-case design study investigated the efficacy of Sketch and Speak strategy intervention. Method: Three participants entering ninth grade completed baseline and 12 individual treatment sessions. Primary outcome measures of notes, oral reports, and short answer questions were collected in baseline and as taught and non-taught treatment probes. Pre/post-treatment measures consisted of a SALT expository report and social validity questionnaire. Results: Visual-graphical and statistical analysis showed a treatment effect for taught note quality and oral reports for all three learners. Non-taught notes and oral report probes also showed an impact of treatment. There was no treatment effect for short answer responses, possibly due to methodological issues. The distal measure showed improvements in report organization, inclusion of details, and use of the note form. Participants reported potential of the taught strategies for non-study learning activities. Conclusion: The results of this study support further investigation of Sketch and Speak as a useful strategy intervention for adolescent students. Funding: USDE OSEP Personnel Development Grant

### **PS1F24**

## **11-Month-Olds Can Learn A Phonological Pattern That Adults Cannot**

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Megan Figueroa; University of Arizona  
Lisa Goffman; University of Texas at Dallas

Exclusive OR rules have been of interest to learning theorists, because they have a sub-pattern structure that makes them unlearnable via associative mechanisms. Previous research in which 11-month-olds and adults were exposed to CVCV nonwords generated by an OR rule (if C1 is voiced then C2 is voiced, OR if C1 is voiceless then C2 is voiceless) demonstrated that infants readily learned the rule, while adults did not. However, the observed infant~adult difference may be due to the fact that infants were tested on blocks of words containing both voiced and voiceless words. Thus, individual infants may have learned only one of the sub-patterns. Here we asked if infants learn both sub-patterns by familiarizing them with words generated by the OR voicing rule and testing on new words in which voiced and voiceless consistent test words were given on separate trials. Infants listened significantly longer to both voiced and voiceless consistent test trials than to inconsistent test trials, suggesting that the previously observed learning difference between infants and adults is one that requires explanation.

Funding: NSF 1724842 & NIH R01DC018410

### **PS1F25**

#### **Train-the-trainer Models: Exploring Their Feasibility to Increase Service Reach**

Sarah Lynn Neiling; The University of Arizona  
Mary Alt; The University of Arizona  
Irma Márquez; Casa de los Niños

Spanish-English late talkers often do not receive quality treatment. Barriers include stringent early intervention (EI) eligibility standards and lack of cross-linguistic and cross-cultural clinical know-how. To increase the reach of interventions, training other professionals is a creative solution that may reduce burden on the field while bringing needed interventions to families who do not qualify for EI services. The current, ongoing study examines the feasibility of using the train-the-trainer model to train community health workers (“parent educators”) to coach caregivers as they administer a word-learning intervention (Vocabulary Acquisition and Usage for Late Talkers, VAULT) to late-talking Latine toddlers exposed to Spanish and English. We anticipate that this model will be feasible--that parent educators will maintain fidelity with the intervention and coaching procedures, likely adjusting aspects to families’ needs. Although we are not advocating for other professionals to do the work of a speech-language pathologist, some concrete intervention procedures may be feasible for other professionals to carry out, increasing service reach. This project is funded by the ASHFoundation Student Research Grant in Early Childhood Language Development.

### **PS1F26**

#### **The role of Rapid Automatized Naming (RAN) and reading fluency: An eye-tracking study**

Alexia Martins; University of Rhode Island  
Vanessa Harwood; University of Rhode Island  
Alisa Baron; University of Rhode Island

Serial rapid automatized naming (RAN) is one of the best predictors of reading fluency; however, there is variability regarding the specific relationship between RAN and reading. This

study aims to investigate the relationship between serial RAN and word reading fluency (measured within an eye-tracking task) in 33 1st and 2nd grade students. RAN was measured by rapid letter naming (RLN) and rapid digit naming (RDN) on the CTOPP-2 and word reading fluency was measured using gaze duration. Results indicated that RAN and gaze duration were not correlated when first and second grade students were combined. However, when analyzed separately, gaze duration and RAN (both RLN & RDN) were correlated in 2nd grade. RAN may be a more useful measure of reading fluency only when participants become more skilled readers.

Funding source: Rhode Island Institutional Development Award (IDeA) Network of Biomedical Research Excellence from the National Institute of General Medical Sciences of the National Institutes of Health under grant number P20GM103430

### **PS1F27**

#### **The place for S(P)CD in taxonomies of idiopathic language disorder**

Sean Redmond; University of Utah

Andrea Ash; University of Utah

Rationale: Clinical taxonomies of idiopathic language disorder differ in how children whose primary language deficits are pragmatic in nature are accommodated. In this study, we tested the prediction extrapolated from the DSM5 framework that there would be significant differences in neurodevelopmental features and collateral clinical symptoms between children with S(P)CD and children with DSM5-language disorder (DSM5-LD). Methods: Data on 47 participants from a community sample provided M:F ratios and family histories as well as verbal, nonverbal, socioemotional behavioral, and literacy measures. Results: Children in the S(P)CD group were 5-times more likely than the DSM5-LD group to be male, 2-times more likely to have a positive family history of ADHD, and as a group demonstrated elevated levels of ADHD, internalizing, and externalizing symptoms. In contrast, children with DSM5-LD presented with reduced reading skills and nonverbal abilities relative to children with S(P)CD. Conclusions: These results encourage treating these profiles as separate disorders that may co-occur rather than as mutually exclusive and jointly exhaustive subtypes or parts of a language disorder spectrum. Funding provided by NIDCD

### **PS1F28**

#### **The Influence of Shyness on Language Assessments**

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Accurate assessment of speech and communication disorders is complex and vital to an individual's success and clinician's work. One understudied component that could influence client's performance on language assessments is shyness. Due to a variety of different assessment methods, shy clients may perform worse on more interactive tests compared to less stimulating tests. The goal of this study is to examine the influence of shyness on participant's performance on language assessments which vary in sociability.

124 participants, ages 17-to-37 months, were given three different language tasks varying the social interaction required; a looking task, pointing task, and production task. Parents reported their child's shyness level via the ECBQ (Rothbart, 2007). The degree of shyness was compared

with participant's accuracy across the three tests. Preliminary results suggest that even after accounting for age effects, accuracy on the tasks is not related to shyness. Further ongoing extensions include frame-by-frame coding to examine more fine-grained behaviors and analysis via a mixed model regression. Understanding temperamental impacts on language assessments is essential to formulate methods to deal with the variation.

### **PS1F29**

#### **The impact of sex on types of errors made in children with Developmental Language Disorder**

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Sarah Kucker; Oklahoma State University

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This study focuses on Developmental Language Disorder and the effects of sex on errors made during word defining. Previous research has found sex differences in DLD prevalence and differences in error rates in DLD, but no work has examined the interaction. Prior work, however, suggests that females outperform men in phonological tasks (Kaushanskaya et al., 2013). Therefore, we hypothesize that DLD males will make more phonological errors when defining a given set of words. 493 children from Tomblin et al. (1997) provided definitions of known words that were coded for error types. Errors were categorized as mixed, semantic, phonological, unrelated, or indeterminate. Preliminary results indicated an interaction of diagnosis and sex on error rates with males making more errors when defining. The current study is continuing to examine types of errors. Further research on error categories is still in progress. Having a significant understanding of common errors being made will aid in forming proper treatment of DLD. This in turn will aid in the normal development of a child's skills despite their language impairment. No funding to report.

### **PS1F30**

#### **The Home Literacy Environments of Children with Developmental Language Disorder Before and After COVID-19 School Closures**

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Julie Wolter; University of Montana

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We compared the home literacy (HL) environments of kindergarten children with DLD to those of typically developing (TD) children. We evaluated changes in HL practices following COVID-19 school closures. Also, we examined the extent to which HL practices predict word reading for each group. We administered standardized assessments of oral language, nonverbal intelligence, and word reading and used a caregiver questionnaire to measure the informal (e.g., shared reading, listening to storybooks) and formal (e.g., code-based activities) HL environments. The groups participated in informal and formal HL routines at similar frequencies. Caregivers of children in both groups participated in informal and formal HL activities more frequently following school closures. The formal HL environment positively and significantly predicted word reading for the DLD group. HL practices did not otherwise predict word reading for either

group. The subgroup of children with the greatest risk (comorbid DLD and word reading difficulty) participated in HL activities the least frequently.

This research was supported by the National Institute on Deafness and Other Communication Disorders of the National Institutes of Health Grant R01DC016895, awarded to co-PIs Tiffany P. Hogan and Julie A. Wolter.

### **PS1F31**

#### **Sustained deficits in prosodic organization in children with developmental language disorder**

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The aim of the current study was to assess the influence of language load on production accuracy in prosodically fragile content words in children with developmental language disorder (DLD) and their typically developing (TD) peers. At yearly study sessions across two years (three timepoints), 25 children (11 with DLD) produced multiple noncanonical iambic words (baboon, papoose, buffet) under low (imitation) and high (retrieval) language load conditions. Accuracy was calculated using a percent whole words correct measure. Errors that occurred in the weak syllable position were divided into syllable omissions, segment omissions, and segment substitutions. Errors that resulted in whole word inaccuracy were more likely to persist in children with DLD into late childhood (7-8 years), particularly during retrieval. Weak syllable errors were distributed across syllable omissions, segment omissions, and segment substitutions. Children with DLD show a sustained deficit in producing words that tap into vulnerable components of the prosodic hierarchy. Supported by NIH R01 DC04826 and DC016813.

### **PS1F32**

#### **Structural language impairment in ASD versus LAD: Behavioral and neural characteristics**

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This study probed for structural language impairment (LI) using behavioral and functional neuroimaging methods in individuals with Autism Spectrum Disorder (ASD) and in individuals diagnosed with ASD in childhood who no longer met criteria for ASD in adolescence/adulthood, referred to as “Loss of Autism” diagnosis (LAD). Participants included: ASD (N = 35); LAD (N = 31); Neurotypical (N = 34). We examined two criteria for LI: an omnibus measure of language and a clinical marker. We used task-based fMRI to examine lateralization of significantly activated language-related brain regions in LI versus normal-range structural language (LN) groups. There were no significant ASD versus LAD differences in the proportion of participants classified as LI. Functional MRI results indicated statistically greater language-related left hemisphere lateralization in the LI relative to LN group. This work demonstrates the presence of persistent structural language difficulty even in the absence of ASD symptoms in some

individuals within the LAD group and unique patterns of language-related neural specialization for language function in LI relative to LN.

Funding: R01MH076189; R01MH112687-01A1

### **PS1F33**

#### **Speech and Language Development in 2-year-old children with Cerebral Palsy: A Follow-Up**

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Most children with cerebral palsy (CP) experience speech, language, and communication impairments, ranging in the severity of impairment. Communication impairments can negatively impact social and educational participation as well as overall quality of life; therefore, those who require additional support to foster language development must receive it. Understanding long-term communication abilities is essential in determining appropriate interventions. However, few studies have characterized the extent to which early communication abilities predict long term outcomes. In this study, we used generalized linear models to determine if speech and language profiles at 2-years predicted speech, language, and communication outcomes at follow-up (9 to 10 years), in 23 children with CP. Speech outcomes assessed at follow-up included intelligibility scores and Viking Speech Scale ratings. Language outcomes were derived from Systematic Analysis of Language Transcripts (SALT) transcripts and included mean length utterances – morphemes and number of different words. Communication was assessed using the Communication Function Classification System. We will discuss results in the context of access to multi-modal communication interventions to support communication in children with CP. Funding Sources: R01DC009411, U54 HD090256, and T32HD007489.

### **PS1F34**

#### **Speech and Language Assessment of Young Dual Language Learners: Are Speech-Language Pathologists Following Best Practice Guidelines?**

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Milijana Buac; Northern Illinois University

More than 12 million children in America speak a language other than English at home (Annie E. Casey Foundation, 2022). Speech-language pathologists (SLPs) are called to provide culturally and linguistically responsive services to the individuals they serve. However, the complexity of accurately evaluating dual language learners (DLLs) has the strong potential to lead to both under- and over- enrollment in SLP services (Bedore & Pena, 2008). A recent converging evidence framework was outlined as best-practice for assessing DLLs (Castilla-Earls et al., 2020). The present study was designed to better understand current SLP knowledge and implementation of best practices for evaluating DLLs as compared to Castilla-Earls et al.'s (2020) converging evidence framework. Results from this survey study revealed that few SLPs understand or appropriately utilize a converging evidence approach when evaluating DLLs speech and language skills. These findings can inform critically needed revisions of educational programs and enhanced training efforts designed to increase the quality of SLP assessment

practices for DLLs, assisting our field in achieving equitable outcomes for children from all backgrounds. [Funding: NIU Health Sciences Doctoral-Faculty Dyad Grant].

### **PS1F35**

#### **Six-Year-Olds' Comprehension of Object-Gapped Relative Clause Sentences: Investigating the Contribution of NP Number Mismatch**

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Comprehension of sentences with a center-embedded, object-gapped relative clause (ORC) is challenging for children. Adani and colleagues (2010) reported that children's comprehension improved under conditions of noun phrase (NP) number mismatch (e.g., singular main clause subject, plural relative clause subject) as compared to NP number match (e.g., both singular subjects). However, given their stimuli children's improved comprehension may have been the result of NP + verb phrase (VP) number mismatch. Our study isolated the contribution of NP number mismatch. Sixteen typical language 6-year-olds completed an ORC sentence comprehension task with four types of stimuli: (a) NP number mismatch only, (b) NP number match only, (c) NP number mismatch with VP number mismatch and (d) NP number match with VP number match. Children selected one of four pictures in an array to 56 verbally presented relative clause sentences. The within-subjects comparison for NP mismatch only and NP match only was not significant. However, the within-subjects comparison for NP mismatch only and NP + VP mismatch was significant, with better performance on the NP + VP mismatch stimuli.

### **PS1F36**

#### **Relations Between Bilingual Sibling Dyads' Vocabulary Performance and Home Language Environmental Factors**

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Caitlyn White; Western Carolina University

Emergent bilingual (EB) children build vocabulary in both of their languages during childhood. Older siblings of EB children who are also EB provide opportunities for vocabulary learning through their physical proximity, their shared home routines and experiences, and their influence on the home language environment. For these reasons, this study seeks to characterize the relationship between EB bilingual sibling dyads' vocabulary performance and home language environment variables. Results will include correlational analysis of the younger and older siblings' vocabulary performance across languages and relevant home language variables such as caregiver input, frequency and types of language activities shared between siblings, and caregiver perspectives on language learning. Knowledge of EB sibling vocabulary performance will inform educators and practitioners about linguistic interaction in homes and identify potential variables of interest among EB siblings. This study was funded by the Western Carolina University Provost Scholarship Development Grant.

### **PS1F37**

#### **Preschool activity contexts and language development in children with and without developmental disabilities**

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Daniel Messinger; University of Miami

Preschool teachers use activity contexts to organize the day and give children opportunities to interact and learn. Here, we assess how differences in the proportion of time in activities relates to the language abilities of children with and without developmental disabilities (DD). During monthly observations, 74 3-5-year-old's (44 with DD) time in structured (e.g., circle time) and unstructured (e.g., free-play) activities was recorded. Children's language abilities were assessed via the PLS-5. Increases in the proportion of time spent in structured activities were positively associated with language, and this association did not differ with disability status. Notably, the association was stronger for expressive than receptive language. This finding could indicate a mechanism by which structured activities, in which teachers elicit verbal responses through routines, provide children with more opportunities to practice language and build their expressive skills. Overall, findings highlight the importance of context in creating opportunities for cognitive development. This research was funded by the Institute of Educational Sciences (IES).

### **PS1F38**

#### **Pragmatic Language Assessment Across Contexts Among Autistic Boys and Boys with Fragile X Syndrome: Use of the Pragmatic Rating Scale-School Age**

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Boys with fragile X syndrome and a co-diagnosis of autism spectrum disorder (FXS+ASD) exhibit pragmatic language impairments similar to those observed among autistic boys. The Pragmatic Rating Scale-School Age (PRS-SA; Landa et al., 2011) is a measure that captures dimensions of pragmatic language in the context of a semi-structured assessment, the Autism Diagnostic Observation Schedule (ADOS), and has been used to identify similarities in pragmatics among these clinical groups. However, the ADOS can be cumbersome and costly, warranting an alternative context from which the PRS-SA may be used. The present study examined group comparisons in PRS-SA scores, consistency across contexts, and associations with other ASD-related metrics. The PRS-SA was coded from videos of 10-minute conversations and the ADOS. Groups did not differ in the conversation, but diverged in the ADOS; however, no context effects were observed. Social-affective symptoms were associated with pragmatics for the FXS+ASD group only. Findings suggest the PRS-SA captures ASD-associated pragmatic behaviors among boys with FXS+ASD across contexts.

This research was supported by P30 HD03352, R01DC019092, T32HD007489, U54 HD090256, and UW- Madison (PI: Sterling).

### **PS1F39**

#### **Parent-reported language milestone mastery in young children with cerebral palsy**

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Children with CP are at significant risk for atypical communication development. We examined parent-reported language milestone mastery in 47 children with CP under 60 months of age during a routine check-up at an urban outpatient neuromuscular multidisciplinary clinic. Parents completed the LENA Developmental Snapshot (LDS) to indicate mastery of early language developmental milestones. Developmental age differences were calculated for each child (corrected age – dev. age). Children were categorized into three gross-motor functioning groups (Low, Mid, and High) using the Gross Motor Functioning Classification System (GMFCS). Participants presented with significant dev. age differences in language milestone mastery ( $p < .001$ ). Greater dev. age differences were observed in children with more severe motor impairments ( $p = .007$ ). Implications of neurological damage on language performance will be discussed.

Funding support for this project was provided by the Plough Foundation of Memphis awarded to D. Kimbrough Oller and by the NICHD (T32HD007489 and U54HD090256).

#### **PS1F40**

##### **Parental Responsivity and Child Communication During Mother-Child and Father-Child Interactions in Fragile X Syndrome**

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Past studies have shown that parentally responsive behavior positively influences language development in neurotypical children and children with disabilities, including those with fragile X syndrome (FXS), the leading cause of intellectual disability. However, most studies have focused exclusively on the mother-child relationship. This study examined concurrent relationships between parent behavior (i.e., responsivity and behavior management) and child language performance in mother-child and father-child interactions, as well as relationships between child characteristics and both parent behavior and child language. Results indicated that mothers and fathers used similar rates of responsive behaviors during parent-child interactions, and parental responsivity was positively associated with child language performance. Additionally, older children and children with higher levels of adaptive behavior had parents who used higher rates of responsive behaviors. Compared to mothers, fathers used higher rates of behavior management strategies, and this type of parental behavior was not associated with child language performance. This study suggests that interventions focused on increasing parental responsiveness would be beneficial for these families, especially if delivered early given the association between responsivity and child age.

Funding source: NICHD P50HD103526

#### **PS1F41**

**Parent and teacher report of ADHD in children with hearing loss: Is there a tendency towards over-reporting?**

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Emily Lund; Texas Christian University

ADHD may be over-identified in the deaf and hard of hearing (DHH) as a result of assessment tools measuring language-based behaviors. Extant research shows that ADHD assessments contain language-based items, leading to over-reporting of ADHD in children with language disorders. In addition to deficits in language, DHH experience executive functioning and listening fatigue difficulties, which may be mistaken as ADHD. This study asks if DHH are at-risk for overdiagnosis of ADHD, score differently on language-based items of the ADHD measure, and if teachers report ADHD-associated behaviors more than parents. Participants included 53 students assessed using the NICHQ Vanderbilt Assessment for ADHD, which was adapted to remove language-biased items. Significant differences were found between hearing-aid users and cochlear-implant users in Total Score and Average Performance Score. Removing language-based items resulted in an additional difference between these groups in hyperactivity scores, but not Average Performance Score. Comparisons between teacher and parent ratings are discussed. These results suggest that hearing-aid users need greater support to prevent these differences. Funding: NIDCD/NIH, R01 R01DC017173 to PIs: Werfel and Lund.

#### **PS1F42**

#### **Narrative referencing patterns suggest struggles with social (vs. linguistic) pragmatics in ASD**

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The current study examines the frequency of referential ambiguity produced in the narratives of older children with and without ASD. Two types of ambiguity were identified and compared between groups. The first, never-introduced ambiguity, involves a referential noun phrase that refers to a character who has not yet been mentioned (e.g., “Once upon a time, the little girl/she...”). Increased occurrences of this type of ambiguity indicate difficulty with social pragmatics/mentalizing. The second type of ambiguity, competing-referents, involves a referential noun phrase that can refer to multiple possible referents (e.g., “There were two little girls who lived in a castle. The little girl/she...”). Increased occurrences of this ambiguity type indicate difficulties with linguistic pragmatics (e.g., Grice’s maxim of quantity) and/or executive functioning (e.g., tracking possible referents in the discourse). Results find that never-introduced ambiguity is significantly more frequent in the narratives of participants with ASD, but competing-referents ambiguity is not. Findings suggest that social pragmatics (perspective-taking and mentalizing) -- not linguistic pragmatics or executive dysfunction -- underlie referential ambiguity in ASD. Funding source: NIH-NIDCD R01 DC012774-01.

#### **PS1F43**

## **Semantic Word Learning by Typically Developing Children in High and Low Context Conditions**

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Rationale: Precise semantic information about words (e.g. definitions) and high context (e.g. presentation of words in a narrative) are both predicted to improve semantic word learning (Bolger et al., 2008). This study examines the effect of contextual support on semantic word encoding, controlling for the precision of information provided in a definition. Specifically, semantic learning outcomes are compared when words are presented with high contextual support (definitions and pictures embedded in a narrative) or low contextual support (the same definitions and pictures with rote instruction), across medium or high exposures to the word.

Methods: Typically developing second grade students completed word learning tasks under two contextual support conditions (high/low) and at two doses (18/36 exposures). Measures of semantic encoding (recall, recognition) were administered.

Results: Analyses will examine differences in semantic word learning outcomes between across context conditions, dose, and interaction between context and dose.

Conclusion: We predict main effects of contextual support condition (high>low) and dose (high>low) but no interactions.

This study is part of Project WORD, funded by the NIH – NIDCD, #5R01DC017156-03.