

## **SRCLD 2022 Poster Session 2**

### **PS2F01**

#### **Measuring referential communication dynamically in older children with ASD**

Caitlin Lee; James Madison University  
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Emily Zane; James Madison University  
Ruth B. Grossman; Emerson College

Research finds individuals with autism spectrum disorder (ASD) are relatively ineffective and/or inefficient at referential communication. However, this research typically uses static metrics of efficacy (how accurately messages were relayed) and efficiency (overall word count), rather than dynamic metrics (e.g., Does the speaker alter subsequent descriptions when the listener previously misunderstood them?). Our study uses dynamic measures to examine how speakers with and without ASD adjust their message to meet listener needs across time.

A board was positioned before the participant with a doll surrounded by four shapes. Behind a barrier, the same shapes were configured around a research assistant, similar to the doll. The participant's task was to use language to guide the RA to select targeted shapes.

We found no significant difference in efficacy or efficiency between groups. There was a significant effect of trial on word count, reflecting fewer words were used in later trials.

Both groups were equally effective at adjusting communication strategies based on previous success, but participants with ASD were marginally more efficient: they abbreviated utterances more quickly to reflect increased listener understanding.

NIH

### **PS2F02**

#### **Measuring Dialect and Syntax in School-age Urban African American Children**

Bryan Murray; University of California- Irvine  
Katherine Rhodes; University of California- Irvine  
Julie Washington; University of California- Irvine

The goal of this study was to explore the syntactic abilities of school-age African American children (N=513) in an urban intensive school district who speak African American English (AAE). Syntax provides critical support for both academic success and linguistic growth, yet has not been a focus of language research with school-aged African American children. Multilevel modeling was used to evaluate growth and associative change between dialect and syntax.

Results suggested that dialect density exerted its impact early but did not continue to influence syntactic growth over time. The current study suggests that failure to consider cultural language differences obscures our understanding of the linguistic competence of these students.

The authors are grateful to the Georgia Language Disabilities Research Innovation Hub, supported by the National Institutes of Health (1R24HDO7545-01) for research support.

### **PS2F03**

### **Measuring change during intervention using norm-referenced, standardized measures: a comparison of raw scores, standard scores, age equivalents and growth scale values**

Elaine Kwok; Northwestern University  
Hannah Feiner; Northwestern University  
Aaron Kaat; Northwestern University  
Megan Roberts; Northwestern University

Norm-referenced, standardized measures are tools designed to characterize a child's abilities relative to their same-aged peers, but have also been used to measure changes in skills during intervention. This study analyzed Preschool Language Scales-5 data from 110 children who participated in an 8-weeks parent-mediated language intervention and compared four, frequently available scores from standardized measures in detecting changes in children's language skills. The four scoring approaches compared were raw scores, standard scores, age equivalents and growth scale values. Findings suggested that growth scale values were not only psychometrically-sound, but were the most direct, and sensitive measure of changes in skills compared to raw, standard, and age-equivalent scores. Data from this study was collected with support from a National Institute on Deafness and Other Communication Disorders grant R01DC014709 (PI: Megan Y. Roberts).

### **PS2F04**

#### **Measures of socioeconomic Status to Predict Child Language Outcomes**

Sneh Jhaveri; Oklahoma State University  
Sarah Kucker; Oklahoma State University

Several studies have measured socioeconomic status (SES) using various indices, especially maternal education. However, very few studies have looked at the combined effects of the various indices of SES on word learning in children. The current study examines the various indices of SES in a single model to understand whether using one factor is as beneficial as using a combination of factors to study SES. Secondly, the study aims to analyze whether the broad (neighborhood demographics) or close (parent demographics) elements of the environment have a larger influence on vocabulary size. Here, we find neighborhood education accounted for 1.3% of the variance on vocabulary after controlling for parental education and age. Additionally, parental education did not add additional variance to the model. Data reveals that factors of SES need to be studied in depth to better predict child language outcomes.  
no funding to report

### **PS2F05**

#### **Looking Beyond Phonological Awareness: Examining Orthographic Knowledge and Orthographic Outcomes in Children with Speech Sound Disorder**

Anna Ehrhorn; University of South Carolina  
Suzanne Adlof; University of South Carolina

Speech sound disorder (SSD) puts children at risk for word reading and spelling difficulties but does not guarantee them. Research on early literacy skills in SSD has primarily focused on phonological awareness due to phonological deficits associated with SSD. There is a causal association between phonological awareness and word reading, and relatedly spelling development. However, phonology is only one component necessary to read a word. The current

study systematically probes three aspects of orthographic knowledge (alphabet knowledge, phoneme-grapheme correspondence, and sensitivity to orthographic constraints and regularities) and orthographic outcomes (word reading and spelling) in children with SSD and children with typical development (TD). Analyses will examine group differences between the SSD and TD groups in each measure of orthography. Results will identify whether orthographic deficits may be associated with SSD resulting in higher risk for word reading and spelling difficulties. Additionally, results will steer SSD intervention to target abilities in deficit while utilizing their strengths to optimize speech sound production and academic achievement. This research was supported by NIH Grant R01DC017156.

## **PS2F06**

### **Language and Literacy Abilities among Children with Emotional-Behavioral Disorders**

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emotional-behavioral disorders. In the current study, we investigate the prevalence of risk for language/literacy disorders in a sample of children and adolescents (N = 201) enrolled in a residential treatment program for youth with emotional, behavioral, and/or academic problems using a teacher-report survey. A subsample of these students (n = 151) completed an expository essay in the classroom. We compared essay characteristics across students who passed the teacher survey and students who failed (and are at risk for language/literacy disorders). Of the 201 total children, 94 (47 percent) failed the survey and were determined to be at risk. Essay characteristics across groups were largely similar, with the exception of spelling and grammatical writing issues: Students at risk had significantly more spelling and grammar errors than students who were not at risk. Results confirm a high comorbidity of EB disorders and risk for language disorder and suggest children with significant emotional and behavioral problems struggle with language and literacy overall. Funding: BTNRH/Nebraska Tobacco Settlement Biomedical Research Development Fund.

## **PS2F07**

### **Is less really more? The impact of clinician recast length on treatment gains.**

Lucia Sweeney; The University of Arizona

Heidi Mettler; The University of Arizona

Elena Plante; The University of Arizona

Becky Vance; The University of Arizona

Alexander Tucci; The University of Arizona

Even when a treatment is known to be effective, details around how the treatment is delivered can enhance or lessen its effectiveness. In this study, we employ a well-established treatment, Enhanced Conversational Recast therapy, and manipulate the length of the clinician recasts provided to children. Preschool children with DLD either heard recasts that were four or fewer words or five or more words in length during treatment of a single grammatical form. The results indicated significant change in the children's use of treated forms over untreated control forms, confirming the overall effectiveness of the treatment. There was no difference associated with recast length, but somewhat more children responded to treatment under the short recast

condition. We also examined the effect of recast length on the growth in children's utterance length pre- to post-treatment. There was no difference in MLU growth associated with recast length. Funded by NIDCD grant R01DC015642.

### **PS2F08**

#### **Interprofessional Collaborative Practices in Educational Services for Students With Developmental Language Disorder and/or Dyslexia**

Timothy DeLuca; MGH IHP

Rouzana Komesidou; MGH IHP

Tiffany Hogan; MGH IHP

The field of implementation science has informed the need for increased interprofessional collaborative practices (ICP) within schools, especially when supporting children with DLD and/or dyslexia who engage with multiple stakeholders throughout their school day. A survey was administered to a partnership school district to identify features of ICP with items related to (a) provider characteristics (b) knowledge, (c) roles/responsibilities, (d) collaborative practices, (e) values, and (f) organizational factors. Simple linear and robust regressions indicated that profession type and educational level significantly predicted factors of knowledge, behaviors, values, and identification of resources related to supporting students with DLD and/or dyslexia. ANOVAs indicated that professional groups within the district varied significantly in their training, knowledge, practices, and beliefs regarding ICP and service of children with DLD and/or dyslexia. Implementation science informs processes to be identified, trialed, and revised to improve ICP and support of children with DLD and/or dyslexia. Tewksbury Public Schools Grant: Building Capacity for Interprofessional Collaborative Practice to Improve Educational Services for Students with Dyslexia and Developmental Language Disorder, 2020-2021 PI: Rouzana Komesidou, PhD

### **PS2F09**

#### **Interactions between world knowledge and sentence-internal cues in passive sentence interpretation in children with developmental language disorder**

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Patricia Deevy; Purdue University

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Claney Outzen; Purdue University

Laurence Leonard; Purdue University

Relative to children with typical development (TD), children with developmental language disorder (DLD) have difficulties interpreting noncanonical structures like passive sentences, particularly when they describe improbable events. We developed a learning-and-processing task in which four-to-five-year-old children with DLD (N=19) and with TD (N=18) learned about events that biased event expectancies concerning particular agents' behavior (e.g., a woman who likes physical work vs. a man who likes passive observation) followed by a visual-world-paradigm passive sentence comprehension task. We asked: How do children with DLD learn, use, and integrate event probability cues with other sentence-internal cues during online passive

sentence processing? Results suggested that the children with DLD had poorer use of informative morphosyntactic, vocabulary, and event probability cues. The findings are consistent with accounts that children with DLD have poorly represented, immature comprehension strategies. However, the results also suggest that children with DLD have poorer sensitivity to world knowledge and biasing event probability information despite their preference for probable event sentence interpretations, opening new avenues for study of factors contributing to DLD. Funded by NIH/NIDCD F31DC018435.

## **PS2F10**

### **Improving Oral and Written Narration of Children with Language-based Reading Difficulties: Results of a Randomized Controlled Trial**

Sandra Gillam; Utah State University  
Ronald Gillam; Utah State University  
Sharon Vaughn; University of Texas at Austin  
Greg Roberts; University of Texas at Austin  
Phil Capin; University of Texas at Austin  
Beula Magimairaj; Utah State University  
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Rebekah Wada; Utah State University  
Carly Fox; Utah State University  
Jordan Dille; University of Texas at Austin

This multi-site randomized controlled trial was designed to rigorously evaluate the efficacy of the Supporting Knowledge of Language and Literacy (SKILL) intervention program for improving oral narrative comprehension and production. A total of 357 students with language and literacy difficulties in Grades 1-4 in 13 schools across seven school districts were randomly assigned to the SKILL treatment condition or a business as usual (BAU) control condition. SKILL was provided to small groups of two to four students in 36, 30-minute lessons across a two-month period. Multi-level modeling with students nested within teachers and teachers nested within schools revealed students who received the SKILL treatment significantly outperformed students in the BAU condition on measures of oral narrative. This study was supported by a grant from the National Center for Educational Research.

## **PS2F11**

### **How Do Speech-Language Pathologists Interpret Picture Scenes Used in Narrative Language Assessment?**

Emily Matula; New York University  
Christina Reuterskiöld; Linköping University

Visual aids are commonly used in narrative language assessment, including story formulation. Children are asked to create a story about a picture scene, which often depicts a main event (i.e., agent acting on patient) surrounded by contextual (background) details (e.g., Gillam & Pearson, 2017). Main event identification is considered more important than background detail identification (e.g., Norbury, 2014). We do not yet know whether speech-language pathologists (SLPs) carry over this emphasis on main events to their own interpretation of picture scenes. In this study, SLPs and non-SLPs viewed picture scenes (main event with/without background

detail) from Norbury (2014) and clicked on areas they perceived as important to the description of the scene. All participants had a smaller proportion of main event clicks for pictures with background detail. Results suggest that background details are perceived as important when included in a picture scene. SLPs may need to consider the composition of picture scenes used to elicit narrative language. This research was supported by a Doctoral Research and Travel Grant from New York University Steinhardt School of Education, Culture, and Human Development.

## **PS2F12**

### **Feasibility of a remote transdiagnostic assessment battery for language processing**

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Cynthia Huang-Pollock; Penn State University  
Laura Bray; Pennsylvania Dept. of Education  
Karen Gonzalez; Penn State University  
Tracy Kammerer; Penn State University

Stakeholders are increasingly calling for transdiagnostic approaches to understanding, assessing, and treating neurodevelopmental disorders. This pilot study explores the feasibility and promise of a research-driven assessment battery focused on information processing abilities, which transcend traditional diagnostic categories of development disorders. As initial steps in this program of research, the research questions are 1) does a battery of measures of language processing that are adaptations of established experimental tasks show promise in early pilot testing? and 2) is remote administration of the tasks feasible? Participants are 6 children, ranging in age from 8;2 to 10;10 (mean 9;6), with a recruitment target of n=12. The battery includes measures of nonverbal IQ, phonological awareness and memory, decoding, rapid naming, short-term and working memory, and processing speed with verbal auditory, nonverbal auditory, and visual stimuli. Interim descriptive results suggest that remote administration is feasible with appropriate adjustments. The distributions of scores fall within an expected range but show reasonable variability. Collinearity among the variables covers a wide range, indicating that the instruments are tapping into different sources of variation among children.

## **PS2F13**

### **Examining Differences in Caregiver and Child Language Behaviors During Dyadic and Triadic Caregiver-Child Interactions in Children with Down Syndrome**

Marianne Elmquist; University of Wisconsin - Madison  
Emily Lorang; University of Wisconsin - Madison  
Andrea Ford; University of Minnesota - Twin Cities  
Audra Sterling; University of Wisconsin - Madison

Researchers commonly examine dyadic caregiver-child interactions (CCIs) to understand how features of these language-facilitating interactions can contribute to child language development. However, children frequently engage in triadic CCIs, or interactions involving two caregivers simultaneously. From this premise, we examined if/how, six caregiver measures (e.g., mean length of utterance [MLU], opportunities to respond, type-token ratio) and three child language measures (e.g., MLU) varied when sampled during two configurations—dyadic and triadic CCIs—for 11 children with Down syndrome. We sampled the caregiver and child language used

during interactions in three contexts: dyadic CCIs with mothers, dyadic CCIs with fathers, and triadic CCI with both caregivers present. We transcribed portions of the samples using SALT conventions. To compare caregiver and child language measures between dyadic and triadic CCIs, we used effect sizes (Hedges  $g$ ) and confidence intervals. We will discuss implications for sampling interaction behaviors and inferences about a child's overall language learning environment.

Funding sources: T32 DC005359, P50HD105353, F31 DC018716, Vilas life cycle award, and startup funds from the University of Wisconsin-Madison

## **PS2F14**

### **Effect of Everyday Speech Exposure on Children's Lexical and Phonological Development**

Ria Garg; Winston Churchill High School

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Margaret Cychosz; University of Maryland

Phonological working memory measures how well children can store sequences of phones in short term working memory. We looked at the relationship between intonation in child-directed speech, children's talkativeness, and children's phonological and lexical development. We hypothesized that exaggerated intonation in child-directed speech (defined as a more variable  $f_0$  pattern deviating from typical adult-directed speech) would be associated with more mature development.

$N=18$  children completed a series of standardized assessments and daylong audio recordings to measure exposure to speech in their homes. The assessments included a nonword repetition test to measure phonological working memory and a receptive vocabulary test.

Results showed that children whose caregivers used more exaggerated intonation had larger vocabularies. This correlation could be because exaggerated  $f_0$  contours are also associated with slower speech where phones are less likely to be deleted. We also observed little variation in the nonword repetition tests, leading to a weak correlation between child talkativeness and phonological development. Taken together, these results demonstrate the connection between the home language environment and children's lexical and phonological working memory. Funding: R01DC02932

## **PS2F15**

### **Does sequential pattern learning on a serial reaction time task relate to language, motor, and cognitive skills in preschool-aged children?**

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Sébastien Hélie; Purdue University

McKenzie Scoppa; The University of Texas at Dallas

Natalia Savkovic; The University of Texas at Dallas

Sonia Singh; The University of Texas at Dallas

Lisa Goffman; The University of Texas at Dallas

Cognitive processes, such as sequential patterning abilities, may underly the array of deficits exhibited by children with developmental language disorder (DLD). The Serial Reaction Time task (SRT task) has potential for assessing sequential learning in preschool-aged children. We asked whether performance and learning on a simple SRT task was related to language,

cognitive, and motor abilities. Nineteen typically developing (TD) preschoolers completed standardized language, cognitive, and motor assessments, as well as a simple SRT task. Results showed faster reaction times in patterned versus random blocks. Relationships were observed across domains. This study confirms the feasibility of using the SRT task among TD preschoolers. Findings contribute to determining the relationship between language, cognitive, and motor processes. Future analyses that include preschoolers with DLD will enhance the understanding of mechanisms underlying DLD and inform diagnostic and therapeutic practice. Funded by NIH NIDCD R01 DC016813.

## **PS2F16**

### **Do Adolescents with Developmental Language Disorder Understand the Language Used on Order of Probation/Detention Forms?**

Tammie Spaulding; University of Connecticut

**Purpose:** The purpose of this study was to assess if adolescents with developmental language disorder (DLD) appear to understand the legal terminology used on orders of probation and detention that adolescents are asked to sign in court.

**Method:** Adolescents with DLD and their similar-aged typical language peers were presented and prompted to paraphrase randomly selected content from these forms. Responses were coded for degree of understanding. Correlations of performance with cognitive, oral language, and reading measures were also performed.

**Results:** Both groups exhibited difficulty paraphrasing the content from these forms, with this paraphrasing serving as a window into their comprehension of the legal jargon. The only significant correlation with legal phrase comprehension was receptive vocabulary skills.

**Discussion:** It is important to decrease the language complexity that adolescents, including those with DLD, encounter in the juvenile justice system so that they can understand and make well-informed decisions when immersed within the legal processes. Targeting adjustments to the vocabulary within these forms may be an important starting point in this simplification process.

## **PS2F17**

### **Comparison of writing samples elicited from two different informative paragraph prompts in students with Language-based learning disabilities (LLD)**

Anthony Koutsoftas; Seton Hall University

Cynthia Puranik; Georgia State University

Alisa Hindin; Seton Hall University

Informative writing is an important and understudied linguistic outcome for students with language-based learning disabilities (LLD). This study examined the utility of two different prompts to elicit informative paragraph writing samples from intermediate grade students with LLD. The prompt provided students with a topic, instructions, and an opportunity for verbal rehearsal before composing paragraphs. Two different informative paragraph writing samples were obtained from each participant in the study and coded for written transcription measures of productivity, complexity, accuracy, and quality. As part of the research protocol, students completed standardized assessments of oral language, reading, and writing. Statistical analyses included mean comparisons of like measures across samples and correlation analyses among written transcription measures and standardized scores for oral language, reading, and writing.



Findings indicated parity among writing measures of complexity and accuracy with differences observed in measures of productivity and will be discussed in terms of clinical utility and alignment with current theories of writing. This study was funded by a development and innovation grant from U.S. Department of Education, Institute of Education Sciences, #R324A200046.

### **PS2F18**

#### **Child Language and Autism Symptoms Influence Maternal Expectations and Transition Planning in Adolescents with Fragile X Syndrome**

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Heather Fielding-Gebhardt; University of Kansas

Kandace Fleming; University of Kansas

Nancy Brady; University of Kansas

This study examined parents' expectations for their children with fragile X syndrome during the adolescent period, how those expectations changed over time, and whether child language ability or autism symptomatology were related to parents' changing expectations. Semi-structured interviews of 45 mothers of adolescents with fragile X were analyzed to identify parent report of changing expectations for their children over time and goals related to work and postsecondary education. Logistic regression analyses showed that both greater autism symptoms and lower language skills were independently associated with lower likelihood of reporting vocational goals. Multinomial logistic regression analyses revealed that parents of children with greater autism symptoms were more likely to report lower expectations in adolescence. These results suggest that adolescents with fragile X with higher support needs and their families need greater transition planning assistance. This work was funded by NICHD R01 HD084563 and NICHD U54 HD-90216.

### **PS2F19**

#### **Applying the complexity approach in telepractice: Implications for children with speech sound disorders**

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Alicia Escobedo; San Diego State University, University of California San Diego

Amanda Laird; San Diego State University

Irina Potapova; San Diego State University

Philip Combiths; University of Iowa

Sonja Pruitt-Lord; San Diego State University

Jessica Barlow; San Diego State University

The complexity approach in phonological intervention has been established as an effective method for children with phonologically-based speech sound disorders (SSDs; Gierut, 2007). To date, this approach has not been evaluated using a telepractice service delivery model. In the present study, nine children with SSD participated in a six-week telepractice intervention study using an individualized treatment target. Results revealed broad phonological change immediately following intervention for all participants, despite variations in the magnitude of observable differences compared to baseline measures. This study aims to close a clinical gap in the evidence base in support for the complexity approach via telepractice. This work was

supported by the National Institutes of Health under Grants NIDCD R21 DC01720 and NIDCD F31 DC017697.

## **PS2F20**

### **A multi-contextual examination of predictors of expressive vocabulary among late and typical talking toddlers using a machine learning approach**

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Sou Jin Choi; Northwestern University

Brittany Manning; Northwestern University, Weill Cornell Medicine

Lauren Wakschlag; Northwestern University

Elizabeth Norton; Northwestern University

There is considerable unexplained variation in expressive vocabulary in toddlerhood, as few studies consider the dynamic interplay among various domains that influence variability in developing language. The goal of this study is to identify the strongest predictors of 30-month-old parent-reported expressive vocabulary based on (1) traditional child language measures, as well as other domains hypothesized to improve prediction (2) child brain measures (electroencephalography/EEG), (3) parent-child transactional language environment, (4) family risk/protective factors, and (5) child mental health risk. Random forest machine learning methods are employed to explore linear and nonlinear patterns of data and test several models simultaneously for better prediction accuracy. In proposed analysis with existing data from 178 toddlers (50% late talkers), we will use the random forest algorithm to run a series of random decision trees to determine both the combination of and individual ranking of predictors that contribute most to overall accuracy of predicting expressive vocabulary size at 30 months of age. Predictors identified as most important will suggest areas of future research to improve early identification of language delays and disorders. Funding Source: NIDCD R01DC016273.

## **PS2F21**

### **‘It’s Not a Phase, Mom’: Examining the Ongoing Effects of DLD on the Written Language of 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 in early adulthood for students with developmental language disorder (DLD). We explored how college students with and without DLD differ in terms of the quality and grammatical complexity of their 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 transcribed and coded in SALT for grammatical complexity, and errors in spelling, grammar, mechanics, and semantics. Preliminary results suggest that students with DLD are more likely to make errors of all types on a per-word and per-utterance basis than their peers with TL. Initial comparisons of grammatical complexity suggest little difference across groups. Deeper analysis of error patterns and clause and structure controlling for modality and topic will be discussed. 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.

## **PS2F22**

### **Young adults with dyslexia and their ability to identify stressed syllables within a poetry task**

Matt Hopper; Oklahoma State University

Peter Richtsmeier; Oklahoma State University

Hannah Krimm; University of Georgia

Michelle Moore; West Virginia University

Yu Zhang; Oklahoma State University

The goal of the study was to compare young adults with and without dyslexia for their ability to identify prosodic stress in nursery rhymes and poems. Thirty-eight young adults completed the task, 14 of whom reported a history of dyslexia. Materials for stress marking included nursery rhymes like “Mary, Mary quite contrary” and “Little Jack Horner”, as well as portions of the poems “The Princess” by Alfred Lord Tennyson and “Country Music” by Michael Robbins. Overall accuracy in the task was below 80%, indicating that it was generally difficult for all participants. Although the performance of the participants with dyslexia did not significantly differ from the performance of those without dyslexia, a stepwise regression indicated that oral reading fluency was significantly related to participants’ performance. Oral language was also implicated via participants’ scores on the CELF-5 Word Definitions task. Sensitivity to prosodic stress may capture aspects of both written and oral language ability and therefore could have diagnostic utility.

## **PS2F23**

### **Verbal fluency as an estimate of vocabulary size in bilingual children and adolescents**

Daphnée Dubé; McGill University

Elin Thordardottir; McGill University

Verbal fluency (VF), involving naming as many words as possible in a given category in one minute, is frequently used to assess executive function skills in bilinguals, but is also related to vocabulary. This study capitalized on this relationship to assess whether VF can be clinically useful to predict vocabulary size in bilingual children. The vocabulary composition of words produced was also examined. Participants were 113 French monolinguals and French-English bilinguals, age 6 to 17 years. VF (naming animals), using a simple coding procedure, significantly predicted receptive and expressive vocabulary scores in the same language as the VF test, but not in the other language. Participants produced more unique words and fewer translation equivalents when tested in the language to which they had been exposed more. Infrequent words were more likely to be produced by those with higher vocabulary scores in the same language. The results indicate that VF can be used clinically to help estimate vocabulary size in each language of bilingual children. The vocabulary composition results support the validity of VF as a vocabulary measure. This study was supported by SSHRC (Social Sciences and Humanities Research Council of Canada) and CRIR (Centre for Interdisciplinary Research on Rehabilitation of Greater Montreal).

## **PS2F24**

### **Utility of spelling for differentiating adults with and without dyslexia**

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Yu Zhang; Oklahoma State University

Michelle Moore; West Virginia University

Peter Richtsmeier; Oklahoma State University

The purpose of this study was to examine the utility of a 15-word spelling test (Fidler et al., 2011) for differentiating adults with and without word reading difficulties (i.e., dyslexia). Participants were 26 undergraduate students who completed the spelling test as part of a larger language and literacy battery. Responses on the spelling test were scored as correct or incorrect; spelling score was the percent of words a participant spelled correctly. There was a significant difference in spelling score between participants with and without dyslexia. Results suggest that the 15-word spelling test may be useful for identifying adults with dyslexia.

## **PS2F25**

### **The syntactic properties of the early vocabulary of children on the autism spectrum**

Jonet Artis; New York University

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Sudha Arunachalam; New York University

Autistic children often demonstrate less of a gap between receptive and expressive vocabulary size when compared to nonspectrum children. In the current study, we ask whether the syntactic properties of the vocabulary words are associated with their receptive vocabulary and the words that move into the expressive vocabulary. To explore this question, we used data collected from MacArthur-Bates Communicative Development Inventory I checklists of autistic children and nonspectrum children between the ages of 12 and 34 months. Our results indicated that while autistic children demonstrated smaller receptive vocabularies than their nonspectrum peers, this difference was not driven by the syntactic properties of the words. We also found no group differences in the types of words that moved from the receptive to expressive vocabulary. However, we did find that both groups were more likely to produce syntactically simple words than syntactically complex words. Thus, this study provides evidence for early delays rather than differences in vocabulary acquisition in autism. Funding: NIH R01 DC016592

## **PS2F26**

### **The Sentence Diversity Priming Task: An Efficient Tool for Assessing Toddlers' Sentence Production**

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The ability to produce diverse sentences is a critical developmental expectation by age 3. However, parent-toddler language samples in play may not reveal the diversity of sentences toddlers can produce. The Sentence Diversity Priming Task (SDPT) is a structured protocol designed to remotely assess sentence diversity with high levels of discourse support. Thirty-two typically developing toddlers, 30-35 months of age, completed the SDPT and a remotely collected parent-child language sample. Compared to the SDPT, language samples elicited more complete and intelligible utterances and different words (NDW); however, the SDPT promoted higher mean length of utterance (MLU) and more diverse verbs, 3rd person subjects, and 3rd person subject-verb combinations. MLUs and NDWs on the SDPT and in language samples had moderate and weak positive relationships, respectively. There were no other significant relationships between the tasks. The SDPT is an efficient measure of sentence diversity. By creating multiple opportunities to produce 3rd person sentences under high levels of support, the SDPT reveals toddlers' capacity for producing diverse sentences and expands the range of differences observed between children.

NIDCD R01 DC016273

### **PS2F27**

#### **The Home Literacy Environment's Effect on Language and Literacy Outcomes in Monolingual and Bilingual First and Second Grade Students**

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Vanessa Harwood; University of Rhode Island

Ronilee Mooney; Newport School District

Alisa Baron; University of Rhode Island

The Home Literacy Environment (HLE) is a physical and relational construct that encompasses activities, attitudes, and materials in the home that enhance and contribute to a child's overall literacy competencies. Previous research suggests that HLEs that encourage both inside out (phonological awareness, decoding, and letter knowledge) and outside in (language, vocabulary, content, narrative understanding, and conceptual knowledge) literacy skills predict later reading ability in young children. This study focuses on how the HLE and socioeconomic status (SES) affect inside out and outside in outcome variables in 27 monolingual and Spanish-English bilingual first and second graders. We used 2 regression models to measure the amount of variance explained by the HLE (measured by a HLE checklist) and SES in 1) inside out (measured by CTOPP-2 Phonological Awareness Composite, and DIBELS Word Reading Fluency) and 2) outside in (measured by CELF-5 Core Language Score and ROWPVT-4 Standard Score) literacy variables. Preliminary results demonstrated that HLE and SES significantly predicted phonological awareness and oral language. Clinical implications regarding the importance of home literacy practices will be discussed.

### **PS2F28**

#### **The effect of neighborhood density on phoneme blending in children with hearing loss and children with typical hearing**

Courtney Trevino; Texas Christian University  
Krystal Werfel; Boys Town National Research Hospital  
Emily Lund; Texas Christian University

This study investigates the longitudinal effects of neighborhood density on phoneme blending skills of children with hearing loss (CHL) and children with typical hearing (CTH). Two cohorts of children participated in the study. Cohort 1 (n = 52) included 25 CTH and 27 CHL. Cohort 2 (n = 25) included 13 CTH and 12 CHL. Participants completed a phoneme blending task with high- and low-density words twice across 6–12-months. In both cohorts, CHL demonstrated a delay in phoneme blending skills. All children in Cohort 1 demonstrated growth in skill from the first to second test. In Cohort 2, all children plateaued in development; CNH approached ceiling, and CHL's deficit persisted and did not grow from first to second grade. All children in Cohort 1 and CHL in Cohort 2 experienced a high-density facilitation effect. CHL develop phoneme awareness skills more slowly than CNH. The plateau in development suggests that CHL's delay may not resolve, which could impact future literacy skills. The density facilitation effect may have implications for intervention.

Funding source: NIH/NIDCD R01DC017173 to KL Werfel, E Lund

## **PS2F29**

### **The development of plural and verbal morphology in Mandarin-English bilingual two-and-a-half-year-olds**

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Priscilla Helen; California State University, East Bay  
Javier Jasso; University of Texas at Austin

Rationale: One of the challenges that speech-language pathologists face in evaluating the grammatical skills of bilingual children is that sometimes the errors in their English utterances may look similar to those of monolingual children with language disorder. We examine whether typically developing Mandarin-English bilinguals omit morphosyntactic forms for plurality ('-s') and present progressive tense ('-ing') and instead use Mandarin-influenced modifiers ('two' and 'now') preceding the noun or verb in English.

Methods: Twenty-four typically developing monolingual English and bilingual Mandarin-English two-and-a-half-year-olds participated via videoconferencing in an elicited production task for plural nouns and present progressive verbs. Parent reported vocabulary inventories were collected in each language.

Results: Group analyses show that Mandarin-English bilinguals omit plural '-s' and present progressive '-ing' more frequently than English monolinguals. Many Mandarin-English bilinguals used the Mandarin-influenced 'two' and 'now', with individual differences in vocabulary.

Conclusions: Diagnostic decisions determining language difference versus disorder should be inclusive of cross-linguistic influenced expression of similar concepts.

Funding sources: Faculty Support Grant (first author) and National Science Foundation Postdoctoral Fellowship (SBE-1715073; second author).

### **PS2F30**

#### **The contribution of cognitive abilities to sentence repetition performance in bilingual children**

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Performance in sentence repetition (SR) is often used to discriminate between children with and without developmental language disorder (DLD). Various mechanisms are thought to be involved in SR, including linguistic and cognitive abilities. The purpose of this study is to examine the relative contribution of linguistic and cognitive abilities to explain the difficulties involved in SR for bilinguals with DLD. 113 Spanish-English bilingual children (4;0-8;2) were administered a battery including cognitive and language assessments. To explore the contribution of the different measures to SR performance in bilingual children, we conducted hierarchical regression analyses using age, language measures, and cognitive measures of short-term memory, cognitive flexibility, and attention to predict CELF SR scores. Results revealed these factors explained 65-78% of the variability in SR scores. As expected, measures of linguistic abilities contributed the greatest amount to the variability in SR performance, but measures of short-term memory also significantly contributed to the SR scores. These results align with the broader literature on subtle nonlinguistic limitations in children with DLD.

This research was supported by NIH Grant 1K23DC015835-01, awarded to Dr. Anny Castilla-Earls.

### **PS2F31**

#### **The acquisition of a rule-based sound sequence in typically developing 4- to 6-year-old children**

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LouAnn Gerken; University of Arizona

Samantha Glickman; University of Texas at Dallas

Sara Benham; Indiana University

Lisa Goffman; University of Texas at Dallas

The aim of this research was to determine whether 4- to 6-year old children with typical development are sensitive to a phonological rule—the OR rule—that is learnable by infants, but not by adults (Gerken et al., 2019). The rule in question is a sequential pattern regularity specifying that, in a CVCV nonword, when C1 is voiced then C2 is voiced OR when C1 is voiceless then C2 is voiceless. Two groups of children practiced producing four novel words over six different sessions. One group of children was exposed to a set of words that incorporated the OR rule. A control group produced similar words, with the critical difference that the stimuli did not involve a single pattern. Generalization probes were included in sessions 5 and 6. Children in the OR group showed more accurate productions than those in the control group, suggesting sensitivity to the OR rule. These results provide a developmental framework for assessing how children with developmental language disorder acquire phonological sequences that are central to grammatical learning.

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### **PS2F32**

#### **Telepractice and Traditional Administration of the SPELT-4.**

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Becky Vance; University of Arizona

The COVID-19 pandemic has accelerated the movement towards delivery of speech-language services through telepractice. When it comes to tests, telepractice delivery may or may not prove equivalent to traditional face-to-face administration. Challenges including audibility, particularly when production of bound morphemes are involved, may make telepractice administration and scoring of language tests substantially different under telepractice vs. traditional methods of test administration. In this study, we assessed the equivalence of telepractice vs. traditional administration of the standardization version of the Structured Photographic Elicited Language Test—4th Edition. The two versions of the test were administered approximately two weeks apart and the order of test administration to children (19m, 14f) ages 4 to 8 years of age was counterbalanced to account for order effects. On average, scores for the two administrations were very similar ( $r=.92$ ). We report on differences between administration modalities and inter-reliability of scoring for telepractice administration.

### **PS2F33**

#### **Teacher and Parent Reports of Concern about Language Ability among School-Age Children from Culturally and Linguistically Diverse Backgrounds**

Alison Hendricks; University at Buffalo

Accurate identification of Developmental Language Disorder is difficult for among students from culturally and linguistically diverse (CLD) backgrounds both due to linguistic biases on many standardized language measures and biases within society more generally. Teachers and parents may prove an important source of information about the students' language abilities, but previous studies suggest that parents may not be fully aware of their children's difficulty with language, and teachers may not be aware of how linguistic variation affects student's language use. This study explored the relationship between teacher and parent reports of students' language ability in school-age children from CLD backgrounds. Similar to previous studies, few parents reported concern about their children's language ability while teachers appeared to be more sensitive to language difficulties. Preliminary analyses found the relationship between parent and teacher reports was not significant. Future research is needed to verify whether teacher reports are accurate compared to standardized language measures and whether teacher report can be leveraged to improve the identification of DLD among school-age children from CLD backgrounds. (Funding: NIH/NIDCD R21DC018355, PI: Hendricks)

### **PS2F34**

#### **Syntactic Growth in Adolescent Boys with Fragile X Syndrome and Down Syndrome: A Longitudinal Study**



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Leonard Abbeduto; University of California-Davis

Despite the robust literature documenting the language profiles of fragile X syndrome (FXS) and Down syndrome (DS), little is known about how language ability in these syndromes changes over time. This is especially true for adolescents. The current study addresses this gap by investigating language change in adolescents (ages 10-16 years) with FXS and DS over the course of four years. We report the change in syntactic abilities using both language assessments and the Index of Productive Syntax (IPSyn). We will use a linear mixed effects regression model to compare measures within groups to assess growth and possible plateau, and between groups to compare growth patterns. These results will have implications for identifying effective assessment and treatment approaches to continue to improve communication skills in young people with FXS and DS.

This research was supported by National Institute of Child Health and Human Development (Grants: R01HD024356, U54HD079125).

### **PS2F35**

#### **Standardized language tests do not capture spontaneous language skills for older children with ASD**

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Nicole Sperrazza; James Madison University  
Ruth B. Grossman; Emerson College

There are reasons to suspect that individuals with autism spectrum disorder (ASD) show differing levels of language competence when language skills are assessed using a formal standardized test battery versus a spontaneous language sample. Social and time pressures are minimized during a standardized language test, which could result in inflated scores that belie underlying language challenges. The current study investigates this issue by comparing frequencies of spontaneous language errors produced by two groups of older children – a group with ASD and one without – who earn statistically similar scores on the CELF-V. Findings reveal that participants with ASD make more than twice as many semantic and morphosyntactic errors, despite being “language matched” with their neurotypical peers. Further, CELF-V scores do not predict the frequency of language error rates for either group. These results suggest that standardized language scores may be a poor predictor of actual linguistic performance for individuals with ASD, yielding important implications for both our understanding of language competence in ASD, generally, and for assessment decisions, specifically.

Funding source: NIH-NIDCD R01 DC012774-01.

### **PS2F36**

#### **SLPs’ Perceptions of Effective Language and Early Literacy Instruction for Pre-K Children with Developmental Language Disorder**

Danika Pfeiffer; Kennedy Krieger Institute/Johns Hopkins University  
Julie Feuerstein; University of Central Florida  
Rebecca Landa; Kennedy Krieger Institute/Johns Hopkins University

SLPs are important stakeholders in the provision of effective instruction for pre-K children with developmental language disorder (DLD). The purpose of this qualitative study was to elicit and analyze school-based SLPs' perceptions related to language and early literacy instruction for pre-K children with DLD. Eight school-based SLPs participated in a 1-hour virtual focus group. Their responses were analyzed using conventional content analysis. Coders generated emergent themes related to SLPs' perceptions of: (a) language and early literacy skills targeted in inclusive pre-K classrooms; (b) collaboration with pre-K teachers to support children with DLD; and (c) classroom and/or administrative supports needed to enhance instruction for pre-K children with DLD. These SLPs' insights and recommendations make an important contribution to the literature guiding school-based service delivery for pre-K children with DLD and may be used to inform administrators' allocation of resources to enhance their instruction. This research was supported by the Institute of Education Sciences, U.S. Department of Education, through Grant R324A180085 (PI: R. Landa) to Hugo W. Moser Research Institute at Kennedy Krieger Inc.

### **PS2F37**

#### **Separating presentation of words and their referents facilitates learning for children with and without Developmental Language Disorder**

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Timothy Arbisi-Kelm; Boys Town National Research Hospital

Nichole Eden; Boys Town National Research Hospital

Karla McGregor; Boys Town National Research Hospital

Rationale: Children with Developmental Language Disorder (DLD) struggle to learn new words. The current project investigated the effect of separating exposure to novel words and their novel referents on learning for children with and without DLD. Methods: 9- to 11-year-old children with DLD (n=14) and with typical language development (n=36) were taught novel names of aliens. We manipulated whether exposure occurred separately (name first or referent first) or simultaneously. Results: Children were significantly more accurate in identifying the correct forms of novel words within an array of phonological foils in the name first (69.2%) compared to the referent first (53.6%) and simultaneous (52.4%) conditions. Conclusions: These findings have implications for vocabulary interventions, suggesting that children with and without DLD have limited processing capacities and learn best when they can separately encode information about novel words and their referents. Funding: NIH-NIDCD2R01DC011742-06.

### **PS2F38**

#### **Science Vocabulary Knowledge and Science Achievement for Children with and without Developmental Language Disorder**

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Mary Alt; University of Arizona

Adarsh Pyarelal; University of Arizona

On recent nationwide measures of science achievement, the majority of students with learning disabilities demonstrated low levels of proficiency in science. This includes children with Developmental Language Disorder (DLD), who fall behind their peers in both vocabulary and academic achievement. Although vocabulary knowledge is linked to academic achievement, we have limited data on the details of this relationship. Importantly, educators have limited time and

are not able to teach everything. This study examines the relationship between science vocabulary breadth, science vocabulary depth, language skills, and performance on a high-stakes standardized science achievement measure, to better understand the role of vocabulary knowledge in academic achievement. Preliminary results indicate that science vocabulary breadth and general language skills predict science achievement; however, science vocabulary depth does not. Although vocabulary depth may still play an important role in science education, these findings suggest that expanding the science vocabulary breadth of students with and without DLD could improve their outcomes on standardized measures of science achievement. This work was supported by a University of Arizona Graduate and Professional Student Council Research and Project (ReaP) grant.

### **PS2F39**

#### **Electronic Toys Decrease Child Spoken Language**

Jennifer Johnson; Michigan State University

Courtney Venker; Michigan State University

Creating rich, play-based interactions to facilitate spoken language in toddlers and preschoolers with ASD is critical, but there is a need to better understand play contexts that support this goal. The aim of this experimental study was to test the impact of toy type (traditional versus electronic) on the quantity and lexical diversity of spoken language produced by children with ASD and age-matched children with TD (2 – 5 years old). Participants were 14 children with ASD and 14 children with TD and their parents. Parent-child dyads participated in 10-minute play sessions, one with traditional toys and one with electronic toys. Regardless of diagnostic group, children talked significantly more and produced significantly more unique words during play with traditional toys than play with electronic toys. Traditional toys may provide a more supportive environment for linguistic interactions between parents and their preschool aged children. This work was supported by funding from the National Institute on Deafness and Other Communication Disorders (R21 DC 016102; Venker, PI) and from the Michigan State University Center for Research in Autism, Intellectual, and Neurodevelopmental Disabilities (C-RAIND).

### **PS2F40**

#### **Phonological Complexity in Novel Gesture Learning: Implications for Domain-General Mechanisms of Language Development**

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Grace McBride; Dallas Independent School District

Kathryn Kreidler; The University of Texas at Dallas

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Natalia Savkovic; The University of Texas at Dallas

Lisa Goffman; The University of Texas at Dallas

Speech and gesture are linked to language, recruiting both the phonological and motor systems. The aim of the present work was to assess the learnability of a set of phonologically and motorically complex gestures in typical children. This work provides a framework for understanding phonological and motor sequence learning deficits in children with developmental language disorder (DLD). Over six sessions, sixteen 4- to 5-year-old children practiced

producing three novel gestures. For one group of children, the gestures all shared a challenging aspect of production, coordinated oppositional hand movements. The second group of children served as controls, producing gestures that were motorically simple and did not incorporate a systematic pattern. Generalization probes were included in sessions five and six. While oppositional gesture training did not improve phonological accuracy, it induced more accurate acquisition of simple, non-oppositional gestures in the generalization phase. Perseverative errors were observed during training. Children in the oppositional pattern condition reduced perseverative errors during generalization. Findings are consistent with complexity learnability theory with implications for typical learners and those with DLD. Funding: NIH R01DC016813

### **PS2F41**

#### **Person reference via pronouns or verbs has different effects on false belief performance: longitudinal study from Czech toddlers**

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Personal and possessive pronouns are closed-class elements related to grammatical as well as social development (e.g. Loveland, 1984; Lewis & Ramsey, 2004). The referents of pronouns depend on the context, and especially the first and second person may be confusing in this respect, unless children have a good understanding of people's communicative intentions. We examined whether the mastery of personal pronouns and person-inflected verb forms predicted the success in false belief tasks, which are viewed as milestones in social-cognitive development. Sixty-one Czech children participated in a two-wave (29 and 43 months) study that examined elicited and spontaneous production of pronouns and verb inflections, as well as a FB task (unexpected transfer). Regression analyses revealed a number of significant unique effects of person reference at 29 months on the FB score at 43 months, above and beyond the effects of general language skills. Both the elicited and spontaneous pronoun data show effects of second-person mastery, while the spontaneous verb-person also first-person. Overall, pronouns and person-inflected verbs in 2-year-olds are related to subsequent development of social cognition.

### **PS2F42**

#### **Peer Friendship Networks of Children at risk for Developmental Language Disorder**

Jason Chow; University of Maryland at College Park

Kristen Granger; Virginia Commonwealth University

Michael Broda; Virginia Commonwealth University

The purpose of this study was to determine the extent that language skills and risk for developmental language disorder contribute to kindergarten children's classroom-based friendship networks. We assessed language skills and collected friendship data via individual interviews of 419 children from 21 kindergarten classrooms. Using social network analysis, we found that language skills were significantly associated with friendship centrality and reciprocity after controlling for classroom and child-level factors. Children classified as at risk for developmental language disorder were significantly less central to friendship networks, and the odds of a reciprocal friendship tie were more than 50 percent lower compared to children who were not classified as at risk. Of children at risk, girls were significantly more central than boys.

We present these findings in the context of future research and implications for intervention development and classroom practice.

Funding Source: Institute of Education Sciences (R324B200039).

### **PS2F43**

#### **Nonword repetition performance in an adversity-exposed preschool sample**

Claire Selin; Pennsylvania State University

Yo Jackson; Pennsylvania State University

Children exposed to adversity are at increased risk for underachievement in language, reading, and academics; however, how early that risk appears and the mechanisms underlying that risk are unclear. The purpose of this study was to investigate nonword repetition performance in an adversity-exposed sample of preschool-aged children ( $n = 92$ ) and identify whether features of the adversity exposure (e.g., dosage, severity, frequency) associated with performance. The participants completed the Syllable Repetition Task (SRT), and their parent completed a comprehensive adversity questionnaire providing data on the child's cumulative lifetime exposure. A third of the participants (34.78%) did not meet age expectations on the SRT, but no features of the adversity exposure associated with SRT performance. Risk for underachievement in language, reading, and academics appears early in the preschool years for children exposed to adversity. Preschool children at risk for or with known adversity exposure will benefit from prevention services and early identification for developmental language and reading disorders. This work was supported by the National Institutes of Health R01MH079252 and T32HD101390.