



# Table of Contents

<b>Bauman, Sarah</b> – Parent Coaching via Telepractice (rm 1)	<b>3</b>
<b>Braden, Jamie</b> – Cue-Based vs Schedule-Based Feeding (rm 2)	<b>4</b>
<b>Eid, Shahed</b> – Stroke-Induced Nonfluent Aphasia (rm 3)	<b>5</b>
<b>English, Courtney</b> – Effect of Parent Involvement in ESDM (rm 4)	<b>6</b>
<b>Grillo, Maddie</b> – Effect of Hunger Provocation in Infants (rm 5)	<b>7</b>
<b>Johnson, Sade'</b> – Telerehabilitation vs Traditional Therapy (rm 6)	<b>8</b>
<b>Petitti, Bridget</b> – Semi-Occluded Vocal Tract Exercises (rm 7)	<b>9</b>
<b>Pukys, Nina</b> – Constraint Induced Aphasia Therapy (rm 8)	<b>10</b>
<b>Vidal, Marissa</b> – Sibling-Mediated Social Communication (rm 9)	<b>11</b>
<b>Vogel, Sami</b> – Cognitive Rehabilitation in TBI (rm 10)	<b>12</b>

# Sarah Bauman

## *The Use of Parent Coaching via Telepractice to Overcome Barriers to Early Intervention for Children with Autism*

### **Abstract**

**Purpose:** This meta-analysis examined the effect of parent implemented intervention for children with autism delivered via telepractice on parent fidelity and child social communication behaviors.

**Method:** A systematic literature search across five databases was conducted, and 6 studies were found that fit the all inclusion criteria. The studies consisted of 83 total participants and single subject and random control trial designs. Participants received naturalistic, developmental, behavioral interventions (NDBI) parent training programs from trained clinicians. The mean parent fidelity scores and the children's mean spontaneous verbal language was taken from all studies and converted to Cohen's  $d$  to determine whether the change from baseline was significant.

**Results:** Parent implemented intervention via telepractice had a large effect size on child verbal language ( $d=1.17$ ). Child verbal language was measured in all studies by an observer during a play interaction with the parent. The intervention also had a large effect size on parent fidelity ( $d=1.28$ ) from baseline, which suggests that parents are able to adequately provide the intervention when taught by a clinician through telepractice.

**Conclusions:** Parents and children in the included studies showed significant increases in the desired outcomes as a result of parent implemented intervention despite the fact that it was delivered through telepractice. These findings offer new opportunities for families who are unable to receive services at the necessary dosage due to time restraints, wait list, geographic constraints, or financial reasons. Telepractice may allow clinicians to provide high quality intervention and to teach parents how to facilitate language in the home environment.

### **Breakout room 1**

# Jamie Braden

## *The Effects of Cue-Based Feeding on Weight Gain in Preterm Infants in the Neonatal Intensive Care Unit*

### **Abstract**

**Purpose:** The number of preterm infants on speech-language pathologists' caseloads is increasing as neonatal medicine advances. With the end goal of the neonatal intensive care unit being safe and timely discharge, it is important to understand the most effective and safest methods for getting an infant home. This meta-analysis analyzes existing literature and determines effect size for the following research question: In preterm infants in the neonatal intensive care unit, how does cue-based feeding affect weight gain?

**Methods:** A comprehensive search of Academic Search Complete, CINAHL, Health Source, and Medline was done to assess the literature for cue-based feeding. Articles were excluded if they were not written or available in English, were not a treatment study, were not specific to preterm infants or the neonatal intensive care unit, did not test cue-based feeding, did not measure weight gain, or if they were quality improvement studies.

**Results:** After exclusion criteria was applied, nine articles remained for statistical analysis. After further analysis, Cohen's  $d$ , a measure of effect size, was calculated for seven of the nine studies. The overall effect size of included studies was determined to be 0.05 when a confidence interval of 95% was used, indicating that there was no difference in the mean weight gain between the control and intervention groups. The range of effect sizes for included studies was -0.76 to 0.84.

**Conclusions:** Conclusions: This meta-analysis supports that cue-based feeding does not lead to any statistically significant differences in mean weight gain for infants in the NICU when compared to a schedule-based feeding routine.

### **Breakout room 2**

# Shahed Eid

*In stroke-induced nonfluent aphasia, what is the effect of Augmentative and Alternative Communication (AAC) on increasing communicative output?*

## Abstract

**Purpose:** As a result of a stroke, head trauma, or other neurological causes, many individuals acquire a nonfluent aphasia, and several of these individuals may not regain functional communicative ability. These individuals are believed to retain their cognitive processes, which may yield success with alternative communication measures. This meta-analysis seeks to answer: In stroke-induced nonfluent aphasia, what is the effect of Augmentative and Alternative Communication (AAC) on increasing communicative output?

**Methods:** Studies for this meta-analysis were located using PubMed, MEDLINE, CINAHL, and Web of Science, yielding 152 total studies, of which 10 were included in this analysis.

**Results:** Of the ten studies included, an overall effect size was calculated for nine studies, while one study could only be discussed qualitatively. Upon analysis, AAC use for post-stroke nonfluent aphasia had a largely negative overall effect size of  $-0.95$ , meaning the included participants appear to have performed at a poorer level than their baseline.

**Conclusions:** As the prevalence of nonfluent aphasia continues to increase, it is crucial to explore the various treatment options available when attempting to enhance the communication of those individuals seeking treatment. While this meta-analysis has several limitations, it provides relevant insight to be contemplated when considering AAC use as a means to expand and increase language output for these individuals. Beyond this, it is recommended that future studies employ controlled experimental designs to further assess the impact of AAC use in nonfluent aphasia, as well as longitudinal measures to explore generalizability.

## Breakout room 3

# Courtney English

*In young children with or at risk for autism spectrum disorder (ASD), what is the effect of parent involvement in the Early Start Denver Model (ESDM) on social communication?*

## Abstract

**Purpose:** While the age of diagnosis for autism spectrum disorders (ASD) continues to be identified earlier in age, the need for evidence-based early intervention for young children also increases. The Early Start Denver Model is a comprehensive behavioral early intervention approach that targets speech and language intervention goals, like imitation, joint attention, social development and play skills. The ESDM can also be parent delivered, which is suggested to generalize targets to daily life. This study examined the extent young children with, or at risk for, ASD who received the Early Start Denver Model intervention with parent involvement demonstrate improved language skills.

**Method:** The electronic databases PsychInfo, Scopus, Web of Science and Medline (PubMed) were used for a systematic literature search. The comprehensive search identified empirical studies that fit the inclusion criteria (i.e. included ESDM, ASD diagnosis or at risk, parent or caregiver involvement, social communication/language measures, research study, English language). Data from standardized testing measures used for meta-analysis included receptive and expressive language. Means (standard deviations) were extracted from each study and converted to a Cohen's *d* effect size with 95% confidence intervals.

**Results:** Seven studies met the inclusionary criteria and provided sufficient information for use in the meta-analysis. All but one study suggests that parent-involvement in the ESDM is minimally effective to improve expressive and receptive communication skills. A positive effect implies that participants improved communication skills compared to control group and that P-ESDM does not impede language development. The overall weighted effect size, 0.17, was considered to be small by Cohen (1998) and effect sizes ranged from 0.1432 to 2.2014.

**Conclusions:** Young children with, or at risk for, ASD perform better than control groups in outcome measures for receptive and expressive language. Speech-language pathologists should consider this when delivering ESDM to children diagnosed with/at risk for ASD on their caseload and when utilizing parents in intervention.

## Breakout room 4

# Maddie Grillo

## *In infants, what is the effect of hunger provocation programs on the discontinuation of peg tube feeding?*

### Abstract

**Purpose:** In infants with autism, oral and food aversion are common. To be specific, food aversion prevalence occurs in approximately 25%–35% of children with normal intellectual and adaptive development. For those with developmental disabilities, the prevalence increases to 40%–80%. In particular, the prevalence of feeding difficulties is almost 90% in children with autistic spectrum disorders (Lefton-Greif Maureen, 2008). As a result, many infants experience failure to thrive. Failure to thrive, or the newborn not able to sustain sufficient nutrient intake on their own, then leads to needing to be placed on alternative feeding methods. The Hunger Provocation treatment is recognized as a method for weaning tube fed and tube dependent children. This meta-analysis aims to determine the efficacy of hunger provocation treatment within these populations. Finding evidence-based treatments as well as treatments that involve caregivers can be a challenge in the field of speech-language pathology. This meta-analysis calculated an overall effect of interventions on existing literature based on the research question: In infants, what is the effect of hunger provocation programs on the discontinuation of peg tube feeding?

**Method:** A comprehensive search and review of the literature was conducted. Five studies were found fit to be included in this meta-analysis. One study did not have enough data for statistical analysis, so only 4 studies were included in effect size calculation. Explanation of search procedures, inclusion and exclusion criteria, and markers used to assess validity.

**Results:** Effect sizes were calculated using Cohen's  $d$ . For 4 of the 5 studies that met inclusion criteria, as can be seen in the Forest Plot shown in Figure 2, the overall effect size is .85 [.50 - 1.21] which is a large effect size significantly different from zero.

**Conclusions:** The literature is hard to come by on this topic, but in general this population seems to show positive results, without completely understanding the unique challenges such as weight loss throughout the overall process.

### Breakout room 5

# Sade' Johnson

*In patients with stroke induced Aphasia what is the effect of telerehabilitation compared with traditional therapy in increasing functional communication?*

## Abstract

**Purpose:** Aphasia is a communication disorder that impacts how a person comprehends and/or expresses language. Higher intensity and increased frequency of therapy positively impacts the outcomes of treatment. However, access to therapy is often limited. Telerehabilitation is a way to implement speech and language therapy remotely. The aim of this meta-analysis was to answer the following question: In patients with stroke induced Aphasia what is the effect of telerehabilitation compared with traditional therapy in increasing functional communication?

**Method:** A systematic review of the literature between 2000 and January 2020 was conducted through four databases: Pubmed PsychINFO, CINAHL, and Web of Science. After exclusionary criteria was applied to the yielded search, six studies remained. All studies were coded and examined for external and internal validity.

**Results:** Effect sizes for comparing the effectiveness of telerehabilitation for increasing functional communication when compared to traditional therapy were calculated using Cohen's d. Forest plots were created to illustrate the individual and combined Cohen's d effect sizes. The overall weighted mean effect size for effectiveness of increasing functional communication was medium. Overall, all of the studies showed both treatment styles to be equally effective. The results from this study suggest that telerehabilitation is equally effective as traditional therapy for increasing functional communication for patients with stroke induced aphasia.

**Conclusions:** Multiple studies found telerehabilitation to be just as effective as traditional speech and language therapy. These results support that telerehabilitation is an efficient approach to the management of functional communication for stroke induced aphasia. These results emphasize the importance of further investigation into the effectiveness of telepractice, especially when this style of treatment approach could allow for increased frequency and intensity of treatment intervention for patients unable to meet with a clinician in person. Future studies should continue to investigate the best administration methods for telerehabilitation across acute/chronic and severity levels of aphasia.

## Breakout room 6

# Bridget Petitti

## *The Effect of Semi-Occluded Vocal Tract Exercises in Adults with Dysphonia as indicated by Auditory-Perceptual Measures*

### Abstract

**Purpose:** Over the course of their lifetimes, many people will seek professional voice therapy for dysphonia. Semi-occluded vocal tract exercises are traditionally used to both train and rehabilitate the voice, and new research highlights their efficacy in healthy individuals. However, research studying the effect of semi-occluded vocal tract exercises in individuals with dysphonia remains less common, and specific studies that consider auditory-perceptual outcome measures are rarer still. This meta-analysis calculated an overall effect size for existing literature on semi-occluded vocal tract exercise interventions in adults with dysphonia based on the research question: In adults with dysphonia, what is the effect of semi-occluded vocal tract exercises on auditory-perceptual outcomes?

**Method:** A comprehensive literature search was conducted on four electronic databases and via hand search. Exclusionary criteria were applied to search results, and the remaining studies were coded and evaluated for study characteristics and external and internal validity. An effect size was calculated for each study to determine the effect of semi-occluded vocal tract exercise interventions on auditory-perceptual outcome measures.

**Results:** A total of 338 studies were captured during the initial literature search stage. Eight studies remained according to inclusion and exclusion criteria. These studies were then rated for internal and external validity. Seven studies, capturing 216 participants, reported adequate auditory-perceptual measure outcome data and were analyzed using Cohen's *d*. Statistical analysis suggests that semi-occluded vocal tract exercises have no effect on auditory-perceptual measure outcomes with an overall weighted effect size of  $-0.03$ , 95% CI  $[-0.33, 0.27]$

**Conclusions:** The use of SOVTE in treating adults with dysphonia was found to have no effect on auditory-perceptual measure outcomes, suggesting that while semi-occluded vocal tract exercises do not cause the voice to worsen perceptually, they also do not robustly improve the auditory perception of the voice. It is possible that semi-occluded vocal tract exercises provide measurable outcomes for dysphonia of a specific etiology, however additional research is needed to confirm this result. Investigation into the long-term effect of consistent use of semi-occluded vocal tract exercise use in this population provides further opportunity for research.

### Breakout room 7

# Nina Pukys

## *Is Constraint-Induced Aphasia Therapy Effective for Improving Naming Abilities, as Measured by the Boston Naming Test, in Adults with Chronic, Non-fluent Aphasia?*

### **Abstract**

**Purpose:** Constraint-induced aphasia therapy is a treatment method that has been used to treat anomia, which is a difficulty with word-finding and a hallmark characteristic of aphasia, in adults with chronic aphasia. This meta-analysis calculated the overall effect-size from the published literature based on the following research question: In adults with chronic, non-fluent aphasia, what is the effect of constraint-induced aphasia therapy on naming, as measured by the Boston Naming Test?

**Methods:** A systematic review of the literature between 2000 and February 2020 was conducted by searching five databases: PubMed, PsychInfo, CINAHL, Academic Search Complete, and Science Direct. A total of 398 studies were captured in the initial research stage. After inclusion and exclusion criteria were applied, twelve articles remained. These twelve articles were coded for study characteristics and evaluated internal and external validity

**Results** Twelve studies were analyzed using Cohen's d. Statistical analysis revealed a large effect sizes for six studies, a medium effect size for one study, small effect sizes for two studies, and no effect for three studies. Meta-analysis suggested that constraint-induced aphasia therapy had a significant medium effect size of .58; with a 95% confidence interval of 0.33 to 0.83 on naming scores on the Boston Naming Test.

**Conclusions:** Overall, constraint-induced aphasia therapy was found to have a positive effect on naming deficits, as measured by the Boston Naming Test, in adults with chronic, non-fluent aphasia. Limitations of this meta-analysis include a limited number of studies available with small sample sizes and widely heterogeneous populations. Future research should address these limitations by including larger sample sizes and utilizing randomized control groups.

### **Breakout room 8**

# Marissa Vidal

## *Sibling-Mediated Social Communication Therapy for ASD*

### **Abstract**

**Purpose:** Children with ASD who have difficulties with social communication may receive therapy services mediated by different natural communication partners: parents, peers, or siblings. While parent- and peer-implemented therapy methods are discussed in numerous reviews and meta-analysis, there is not meta-analysis for sibling-mediated social communication intervention for children with ASD. This meta-analysis will answer the following question: In children with ASD, does sibling-mediated language intervention improve baseline social communication outcomes?

**Methods:** A literature search across four different databases was conducted, including PubMed, ERIC, CINAHL, and Web of Science. Exclusionary criteria was applied to each search result, which yielded eleven studies. Remaining studies were analyzed based on internal validity, external validity, and study characteristics. Effect sizes were calculated for each study using percent of non-overlapping data for small-*n* studies.

**Results:** The overall PND for task engagement outcomes indicated that there was no effect of the intervention. For appropriate play response outcomes, the overall PND indicated that there was minimal effect of the intervention. This suggests that current studies do not support the use of sibling-mediated social communication intervention for children with ASD.

**Conclusions:** This meta-analysis provide evidence supporting further research that investigates the use of the targeted intervention, and that clinicians should carefully consider using this intervention method.

### **Breakout room 9**

# Sami Vogel

## *The Effects of Cognitive Rehabilitation on Pragmatic Language in Traumatic Brain Injury (TBI)*

### **Abstract**

**Objective:** Adults with TBI can present with a wide range of deficits, however their motor deficits appear to occur at a lower incidence rate, as well as have a better prognosis than their cognitive and behavioral counterparts. One of the more chronic deficits found is language and communication deficits, especially pragmatic language. Cognitive Pragmatic Treatment (CPT) and other metacognitive rehabilitative programs aim to improve cognitive skills to improve the communication skills and overall quality of life in those who experience a TBI. Cognition and metacognitive skills include attention, memory, executive function, and understanding other's perceptions and emotions. This meta-analysis calculated the overall effect size for the current literature based on the research question: In adults with traumatic brain injury, what effect does cognitive rehabilitation have on pragmatic language?

**Methods** A systematic literature search was used to identify empirical studies that fit inclusion criteria of (a) adults (18 years and older) with TBI, (b) a cognitive intervention, (c) quantitative pragmatic language outcome measures reported. Data from the studies used for the meta-analysis included assessments of pragmatic language. Cohen's  $d$  and a 95% confidence interval was used to evaluate the effect size for each study and measure the overall effect.

**Results** - six studies remained after the search procedure for a total of 68 participants. This analysis found that cognitive rehabilitation has a large, positive effect (weighted average Cohen's  $d = 0.89 [0.54, 1.24]$ ) on improving pragmatic language ability in adults with TBI.

**Conclusions:** Results shown in this analysis provide evidence that cognitive rehabilitation has a significant positive impact on the pragmatic language abilities of adults with TBI. This is important for speech-language pathologists to consider when determining a treatment approach when working with adults diagnosed with a TBI

### **Breakout room 10**