



**המכללה האקדמית הדסה ירושלים**  
**החוג להפרעות בתקשורת - תכנית התואר השני**

מזמינים אתכם לכנס ה-13 בנושא  
"הפרעות בתקשורת במגוון שפות ואוכלוסיות של ילדים ומבוגרים"

**Hadassah Academic College**  
**Department of Communication Disorders - MA program**

**Invite you to the 13<sup>th</sup> conference on Communication Disorders in**  
**Diverse Languages and Populations of Children and Adults**

**הכנס יתקיים בשני ימים:**  
**יום שלישי ה-10.1.23 יז בטבת, תשפ"ג**  
**יום חמישי ה-12.1.23 יט בטבת, תשפ"ג**

הכנס יתקיים במכללה האקדמית הדסה, רחוב הנביאים 37

Conference Program	
<b>Tuesday 10<sup>th</sup> of January – Geller Auditorium</b> <b>אולם גלר (בניין הלמסלי)</b>	
<b>Registration, refreshments, and posters</b>	<b>12:00-13:00</b>
<b>Welcome and greetings</b> Prof. Loraine Obler, CUNY Graduate Center & Hadassah Academic College Prof. Bertold Fridlender, President of Hadassah Academic College	<b>13:00-13:15</b>
<b>“The effect of multilingualism on healthy middle-aged and older individuals' short-term memory and working memory capacity”</b> Prof. Valantis Fyndanis, Department of Rehabilitation Sciences, Cyprus University of Technology, Limassol, Cyprus & Center for Multilingualism in Society across the Lifespan (MultiLing), University of Oslo, Oslo, Norway <b>Discussion and questions facilitated by: Prof. Loraine Obler</b> <b>ההרצאה תינתן בשפה האנגלית</b>	<b>13:15-13:55</b>
<b>“Understanding, facilitating, and predicting individuals' language recovery in aphasia”</b> Prof. Swathi Kiran, Aphasia Research Laboratory, Boston University <b>Discussion and questions facilitated by: Prof. Loraine Obler</b> <b>ההרצאה תינתן בשפה האנגלית</b>	<b>13:55-14:50</b>
<b>Coffee break</b>	<b>14:50-15:10</b>
<b>“An international study on self-disclosure of aphasia: results from Hebrew, English and Arabic-speaking SLPs in Israel”</b> Dr. Aviva Lerman, Department of Communication Disorders, Hadassah Academic College and the Rehabilitation ward, Hadassah Hospital <b>ההרצאה תינתן בשפה האנגלית (שאלות בעברית ובאנגלית)</b>	<b>15:10-15:25</b>
<b>“Aphasia advocacy from the view of people with aphasia”</b>	<b>15:25-16:05</b>

Asher Scharf, Mor Zeira (SLP), Elchanan Lerner and Chen Karniel (SLP), Adler Aphasia Center, HAC  <b>ההרצאה תינתן בשפה העברית והאנגלית</b>	
<b>Discussion and questions facilitated by: Dafna Olenik, Director of the Adler Aphasia Center, HAC</b>  <b>הדיון יתקיים בשפה העברית</b>	<b>16:05-16:20</b>
<b>Poster session and refreshments</b>	<b>16:20-17:15</b>
<b>“Plastic changes in brain connectivity during aphasia treatment”</b> Prof. Tali Bitan, Department of Psychology and IIPDM, University of Haifa; Department of Speech Language Pathology, University of Toronto  <b>ההרצאה תינתן בשפה האנגלית (שאלות בעברית ובאנגלית)</b>	<b>17:15-17:50</b>
<b>“Linguistic patterns at the onset of Alzheimer’s Dementia: a case study with biographical narratives”</b> Dr. Dagmar Bittner <sup>1</sup> , Claudia Frankenberg <sup>2,3</sup> and Johannes Schröder <sup>2,3</sup> <sup>1</sup> Leibniz Center for General Linguistics (ZAS) <sup>2,3</sup> Section of Geriatric Psychiatry, University Hospital Heidelberg, and Institute of Gerontology, University of Heidelberg  <b>ההרצאה תינתן בשפה האנגלית</b>	<b>17:50-18:20</b>
<b>Closure</b> Prof. Loraine Obler, CUNY Graduate Center & Hadassah Academic College	<b>18:20 -18:30</b>

<b>Conference Program</b>	
<b>Thursday 12<sup>th</sup> of January – Helmsley Hall 6<sup>th</sup> floor</b>	
<b>Registration, refreshments, and posters</b>	<b>12:00-13:00</b>

<b>Welcome and greetings</b> Prof. Bertold Fridlender, President of Hadassah Academic College Dr. Judy Kupersmitt, Senior Lecturer and Head of Organizing team, Hadassah Academic College	<b>13:00-13:15</b>
<b>"New insights on vocabulary, grammar, and listening comprehension in bilingual children"</b> Prof. Ludovica Serratrice, School of Psychology and Clinical Language Sciences, University of Reading <b>ההרצאה תינתן בשפה האנגלית</b>	<b>13:15-13:55</b>
<b>"Variation in multilingual typical and atypical language acquisition"</b> <b>"שונות ברכישת שפה טיפוסית ולא טיפוסית: מבט אל אוכלוסיות דו-לשוניות"</b> Dr. Natalia Meir, Department of English Literature and Linguistics and the Gonda Multidisciplinary Brain Research Center, Bar-Ilan University <b>ההרצאה תינתן בשפה העברית</b>	<b>13:55-14:30</b>
<b>Poster session and refreshments</b>	<b>14:30-15:30</b>
<b>"Narrative production in Arabic: methodological issues and findings in typical and atypical acquisition"</b> Prof. Elinor Saigh-Hadad <sup>1</sup> and Bahaa Mahamid <sup>2</sup> <sup>1,2</sup> Department of English Literature and Linguistics, Bar-Ilan University <sup>1</sup> The Gonda Multidisciplinary Brain Research Center, Bar-Ilan University <b>ההרצאה תינתן בשפה האנגלית</b>	<b>15:30-16:10</b>
<b>"Assessing language abilities and exposure practices of Yiddish-Hebrew speakers using parent reports"</b> <b>"שימוש בשאלוני הורים להערכת היכולת הלשונית ורמת החשיפה לידיש ועברית"</b> Odelya Ohana <sup>1</sup> and Hadar Oz <sup>1,2</sup> <sup>1,2</sup> Department of English Literature and Linguistics, Bar-Ilan University	<b>16:10-16:40</b>

<sup>2</sup> MuLTI for ALL, founder	
ההרצאה תינתן בשפה העברית	
<b>Coffee break</b>	<b>16:40-17:10</b>
<b>"Grammatical Gender as a Window to Different Acquisition Trajectories in Bilingual and Monolingual Children"</b> "תפוז אדום או תפוז אדומה: רכישת נטיית המגדר בקרב ילדים דו-לשוניים" Dr. Hamutal Kreiner, Linguistic Cognition Lab and Department of Behavioral Sciences, Ruppin Academic College ההרצאה תינתן בשפה העברית	<b>17:10-17:40</b>
<b>"The impact of book reading on the narratives of autistic children"</b> "איך תשפיע פעילות קריאה על היכולת הנרטיבית של ילדים על רצף האוטיזם?" Dr. Ana Sandbank, Dr. Judy Kupersmitt, and Liel Menashe, Department of Communication Disorders, Hadassah Academic College ההרצאה תינתן בשפה העברית	<b>17:40-18:10</b>
<b>Closure</b> Prof. Loraine Obler, CUNY Graduate Center & Hadassah Academic College	<b>18:10-18:30</b>

## תקצירי ההרצאות

## Abstracts of talks

Tuesday, 10<sup>th</sup> of January 2023 – adult language  
day

## **The effect of multilingualism on healthy middle-aged and older individuals' short-term memory and working memory capacity**

Valantis Fyndanis

Department of Rehabilitation Sciences, Cyprus University of Technology, Limassol,  
Cyprus & Center for Multilingualism in Society across the Lifespan (MultiLing),  
University of Oslo, Oslo, Norway

To date, the evidence regarding the impact of bilingualism/multilingualism on short-term memory (STM) and working memory (WM) capacity is inconclusive. In this talk, I will present a study that addresses whether bilingualism/multilingualism has a positive effect on the verbal STM and WM capacity of neurotypical middle-aged and older individuals. Eighty-two L1-Norwegian sequential bilingual/multilingual university professors and researchers were tested with tasks measuring verbal STM/WM capacity. Degree of bilingualism/multilingualism for each participant was estimated based on a comprehensive language background questionnaire. Different measures of bilingualism/multilingualism were used. Data on potentially influencing non-linguistic factors such as nonverbal fluid intelligence, physical activity, playing video games and playing instruments were also collected. Correlation and regression analyses showed that multilingualism enhances both verbal STM capacity and verbal WM capacity. In particular, all analyses showed that number of known foreign languages was the strongest predictor of verbal STM and WM capacity. I will discuss the results in light of recent studies on the impact of bilingualism on STM and WM. Moreover, I will talk about the clinical implications of the study.

## **Understanding, facilitating, and predicting individuals' language recovery in aphasia**

Swathi Kiran

Aphasia Research Laboratory, Boston University

In this talk, I will present our ongoing work aimed at predicting language recovery after acquired brain injury, particularly after a stroke. I will present work that covers our current understanding of the neural factors that determine the degree of language recovery after post-stroke aphasia and after rehabilitation. I will present evidence for how understanding the brain's residual network can give us clues towards the factors influencing recovery and rehabilitation-induced plasticity. I will then present our work on developing algorithms to predict aphasia recovery in both monolingual and bilingual adults with aphasia. Our goal is to predict individualized/personalized recovery trajectories based on algorithms from brain markers, big data and computational modeling. This recent work has potential to provide personalized recommendations for rehabilitation trajectories for individual patients who have suffered from acquired brain injury.

## **An international study on self-disclosure of aphasia: results from Hebrew, English and Arabic-speaking SLPs in Israel**

Aviva Lerman

Department of Communication Disorders, Hadassah Academic College and the Rehabilitation ward, Hadassah Hospital, Mount Scopus



**Background:** Aphasia is an acquired language disorder, usually the result of a stroke. The language impairment that people with aphasia struggle with on a daily basis often result in communication difficulties or a communication breakdown. Self-disclosure is a strategy that can be used by people with aphasia to let their communication partner know that they have difficulties. Based on the literature from similar fields (e.g., stuttering, TBI etc.), self-disclosure can result in a more supportive communicative environment, return feelings of control to the person affected, and improve quality of life (e.g., Boyle & Milewski, 2018; Hagger & Riley, 2017). In aphasia, research on non-aphasic listeners perceptions of people with aphasia showed that perceptions were more positive towards those who disclosed their aphasia at the beginning of the interaction than those who did not (Ward & Mack, 2022). To date no research has been published on self-disclosure in aphasia from the point of view of people with aphasia and/or speech and language pathologists (SLPs) treating people with aphasia.

**Aims:** To investigate the knowledge, attitudes, and actions of SLPs who treat people with aphasia regarding self-disclosure (stage I) and to investigate self-disclosure behaviour in people with aphasia and its effect on quality of life (stage II). This study is part of an international research project on the topic of self-disclosure and aphasia across different cultures.

**Methodology:** We asked SLPs to fill out an online questionnaire about their knowledge, attitudes, and actions regarding self-disclosure of people with aphasia (stage I). We collected 79 responses from SLPs who reside in Israel, and who speak Hebrew (n = 75), English (n = 2), and Arabic (n=2). We are currently collecting data, via a different questionnaire, from people with aphasia (stage II).

**Results and conclusions:** We are currently analysing the data we received from SLPs and will present our preliminary results (both quantitative and qualitative). We will also update listeners regarding data collection of stage II of the project.

References:

- Boyle, M. P., Milewski, K. M., & Beita-Ell, C. (2018). Disclosure of stuttering and quality of life in people who stutter. *Journal Of Fluency Disorders, 58*, 1-10.
- Hagger, B. F., & Riley, G. A. (2017). The social consequences of stigma-related self-concealment after acquired brain injury. *Neuropsychological Rehabilitation, 1129-1148*, 10.1080/09602011.2017.1375416.
- Ward, C. B. & Mack, J. (2022). *The Effects of Spoken Self-Disclosure Scripts on Nonaphasic Listeners' Perceptions of People with Aphasia*. Master's thesis, University of Massachusetts Amherst

## מודעות לאפזיה מנקודת מבטם של אנשים עם אפזיה (see abstract in English below)

אשר שרף, מור זעירא, אלחנן לרנר, חן קרניאל ודפנה אולניק

מרכז אדלר לאפזיה, המכללה האקדמית הדסה

גישת ההשתתפות בחיים, ה-LPAA, המיוצגת ע"י מודל ה-A FORM, מתבוננת על איכות החיים של האדם עם האפזיה דרך ארבעה מעגלים: לקות, השתתפות, סביבה וזהות אישית (Kagan, 2008). השנה בחרנו להתמקד בקשר שבין ההשתתפות לידע של הסביבה על אפזיה. בעולם המתבסס על תקשורת קשה להשתלב כאשר יש קשיי שפה ודיבור, במיוחד אם הפרטנר התקשורתי לא מודע למקור הקשיים. אנשים עם אפזיה מתמודדים עם קשיים אלו בחיי היום יום שלהם.

העלאת המודעות לאפזיה יכולה להביא להפחתת מחסומים ולהרחבת הפעילות והשתתפות של אנשים עם אפזיה בחברה. למרות הגברת העיסוק של ארגונים רבים בעולם בהעלאת המודעות לאפזיה, עדיין מדווח בספרות כי המודעות לאפזיה יחסית נמוכה והידע הקיים הינו מאוד בסיסי (Simmons-Mackie et al., 2020).

בהרצאה היום ניפגש עם שני אנשים עם אפזיה שיחלקו עימנו את החוויה של לחיות עם אפזיה, ויספרו למה חשוב עבורם להעלות את המודעות לאפזיה בחברה.

אשר שרף ומור זעירא:

אשר שרף, בן 69, נולד בארה"ב, והיום גר במושב בית יתיר. אשר חי 45 שנים עם אפזיה. בהרצאתו ישתף בקשיים שפתיים, תקשורתיים ורגשיים עמם התמודד כאדם עם אפזיה לאורך השנים. אשר ישוחח עם מור זעירא על ההתמודדות היום יומית עם הקשיים בשיח תקשורתי, ויספר למה חשוב עבורו שאנשים יידעו מהי אפזיה.

מור זעירא, M.A, קלינאית תקשורת בשיקום. מרכז אדלר לאפזיה. מכללה אקדמית הדסה, ירושלים.

אלחנן לרנר וחן קרניאל:

אלחנן לרנר, בן 63, מתגורר בפתח-תקווה, היה מורה, מרצה ב"יד ושם" ומפקד בצה"ל. אלחנן חי כ-4.5 שנים עם אפזיה. לאחר האירוע המוחי אלחנן החל לעסוק באמנות דרך צילום ועריכת

תמונות. בהרצאתו אלחנן יציג צילומים שצילם וערך, ויספר באמצעותם על ההיבטים השונים של ההתמודדות עם האפזיה, ועל הביטוי העצמי שמאפשר לו כיום העיסוק באמנות דרך צילום וכתיבה. חן קרניאל, קלינאית תקשורת, מרכז אדלר לאפזיה, מכללה אקדמית הדסה, ירושלים.

### מקורות:

Kagan, A., Simmons-Mackie, N., Rowland, A., Huijbregts, M., Shumway, E., McEwen, S., & Sharp, S. (2008). Counting what counts: A framework for capturing real-life outcomes of aphasia intervention. *Aphasiology*, 22(3), 258-280.

Simmons-Mackie, N., Worrall, L., Shiggins, C., Isaksen, J., McMenamin, R., Rose, T., & Wallace, S. J. (2020). Beyond the statistics: A research agenda in aphasia awareness. *Aphasiology*, 34(4), 458-471.

### **Aphasia advocacy from the viewpoint of people with aphasia**

Asher Scharf, Mor Zeira (SLP), Elchanan Lerner, Chen Karniel (SLP), and Dafna Olenik,  
Adler Aphasia Center, Hadassah Academic College

The LPAA, Life Participation Approach to Aphasia, as represented by the A-FROM model, observes the quality of life of people with aphasia through four circles: impairment, participation, environment, and personal identity (Kagan, 2008). This presentation focuses on the link between participation and the environment's knowledge about aphasia.

It's difficult to fit into in a world based on communication when there are speech and language difficulties, especially if the communication partner isn't aware of the source of these difficulties. People with aphasia deal with these difficulties in their everyday life. Raising awareness of aphasia can reduce barriers and expand the activity and participation of people with aphasia in society.

Despite the efforts of many organizations worldwide to raise awareness to aphasia, studies still show that aphasia awareness is pretty low and the existing knowledge about aphasia is very basic (Simmons-Mackie et al., 2020). In this presentation, two people with aphasia will share with us their experience of living with aphasia. They will explain to us why it's important for them to raise awareness to aphasia in society.

Asher Scharf and Mor Zeira:

Asher Scharf, 69 years old, born in the USA, lives in Moshav Yatir. Asher has lived with aphasia for 45 years. In his lecture, Asher will share about language, communication and emotional difficulties he has dealt with through the years as a person with aphasia. Asher will talk with Mor Zeira about his everyday struggle with communicative discourse and tell us why it's important for him that people know what aphasia is.

Moe Zeira, MA, SLP, Adler Aphasia Center, Hadassah Academic College, Jerusalem.

Elchanan Lerner and Chen Karniel:

Elchanan Lerner, 63 years old, lives in Petach Tikva. Was a teacher, lecturer at Yad Vashem and a commander in the IDF. Elchan has lived with aphasia for about 4.5 years. After Elchanan's stroke, he started to create art through the mediums of photography and photo editing. In his lecture, Elchanan will present photographs he took and edited, and will use them to tell us about different aspects of living with aphasia and the self-expression that photography and writing enable for him.

Chen Karniel, SLP, Adler Aphasia Center, Hadassah Academic College, Jerusalem.



## References

Kagan, A., Simmons-Mackie, N., Rowland, A., Huijbregts, M., Shumway, E., McEwen, S., & Sharp, S. (2008). Counting what counts: A framework for capturing real-life outcomes of aphasia intervention. *Aphasiology*, 22(3), 258-280.

Simmons-Mackie, N., Worrall, L., Shiggins, C., Isaksen, J., McMenemy, R., Rose, T., & Wallace, S. J. (2020). Beyond the statistics: A research agenda in aphasia awareness. *Aphasiology*, 34(4), 458-471.

## Plastic changes in brain connectivity during aphasia treatment

Tali Bitan

Department of Psychology and IIPDM, University of Haifa; Department of Speech  
Language Pathology, University of Toronto

Aphasia typically occurs following left hemisphere stroke. One of the most intriguing questions in brain plasticity is related to the mechanisms underlying the recovery of language following brain lesions, and the involvement of compensatory and normalization processes in language improvement. The analysis of functional connections in the language network in the brain are key to the process of language recovery. I will review evidence from resting state and task-based connectivity studies, looking at changes during treatment, as well as predictors of recovery, with examples from studies from our lab. Altogether we find evidence for both normalization and compensation processes reflected in the connections between and within each hemisphere, as well as the role for connections with non-linguistic networks.

## Linguistic patterns at the onset of Alzheimer's Dementia: a case study with biographical narratives

Dagmar Bittner<sup>1</sup>, Claudia Frankenberg<sup>2,3</sup> and Johannes Schröder<sup>2,3</sup>

<sup>1</sup>Leibniz Center for General Linguistics (ZAS)

<sup>2,3</sup>Section of Geriatric Psychiatry, University Hospital Heidelberg, and Institute of Gerontology, University of Heidelberg

The talk takes a closer look at linguistic means that specifically direct the hearer's interpretation of information by further evaluation. We will show that information of this type is reduced in subjects who are diagnosed with Alzheimer's Dementia a decade later. Specifically we look at i) clauses of the type *das ist/war ...* 'that is/was ...' (das-COP-clauses) and ii) modifying adverbs and particles like *vielleicht* 'maybe', *sicherlich* 'surely', *eigentlich* 'actually' (MAP). Often both types of evaluative information are combined, cf. *Damals war das bestimmt viel Geld.* 'This time, it certainly was a lot of money.' Data of a group of subjects diagnosed with AD a decade after data collection (AD) will be compared with data of a group of subjects who remained cognitively healthy over this decade (CTR). All subjects are monolingual speakers of German aged 62-64.

## ההרצאות

### Abstracts of talks

Thursday, 12<sup>th</sup> of January 2023 – child language  
day



## **New insights on vocabulary, grammar, and listening comprehension in bilingual children”**

Ludovica Serratrice

University of Reading/The Arctic University of Norway

Two key questions in the study of bilingual language development concern individual differences in language outcomes, and the interdependent nature of knowledge in children’s two languages.

In a drive to move away from monolingual-bilingual comparisons, most researchers now consider bilingualism as a continuum of language experience. Along this continuum, bilingual children differ greatly in how much they hear and speak each of their two languages. The importance of considering the relative amount of exposure and use as a predictor of language outcomes is now well established in research practice and has clear clinical implications too. I will present the findings of a longitudinal study where the role of language experience has been shown to play a key role in predicting UK-based bilingual children’s English language comprehension, and the relationship between their vocabulary and grammatical knowledge over time (Valentini & Serratrice, 2021; Valentini & Serratrice, 2022).

Understanding the extent to which grammatical knowledge in one language is dependent or independent of grammatical knowledge in their other language is another important issue that is of relevance to researchers and clinicians. In an ongoing project using a structural priming methodology (Wesierska, Messenger, Cieplinska, & Serratrice, 2022), I will present new evidence for the presence (and absence) of shared grammatical knowledge in UK-based Polish-English bilingual children.

## Individual Differences in Multilingual Typical and Atypical Language Acquisition

Natalia Meir

The Department of English Literature and Linguistics and The Gonda Multidisciplinary  
Brain Research Center  
Bar-Ilan University

Large individual differences in language skills are well documented in monolingual children (e.g., Kidd et al., 2018). In multilinguals, a broad variation is even more pronounced (Paradis, in press). Some multilingual children might be weak in their Heritage Language (HL, also labeled as Minority Language, Home Language, Community Language), to which they have naturalistic exposure from birth. Others might be weak in their Societal Language (SL), the language of the surrounding and educational environment. Large individual differences are observed in neurotypical multilingually exposed children as well as in their multilingually raised children with developmental language disorder, autism spectrum disorder (e.g., Meir, 2018; Meir & Novogrodsky, 2020).

What causes this large variation in language skills among multilingual children in their HL and SL? I will discuss previous findings on multiple sources driving individual differences in multilingual typical and atypical child language skills, including child-internal (e.g., age of onset of multilingualism, cognitive abilities, socioemotional wellbeing) and child-external factors (exposure-related factors, such as quantity and quality of exposure, parental language proficiency, and family identity) in the context of child multilingualism in Israel. I will present a novel network analysis which can shed light on the nature of the relationship between various factors triggering individual differences in multilingual children's typical and atypical language acquisition outcomes.

#### References:

Kidd, E., Donnelly, S., & Christiansen, M. H. (2018). Individual Differences in Language Acquisition and Processing. *Trends in Cognitive Sciences*, 22(2), 154–169. <https://doi.org/10.1016/j.tics.2017.11.006>

Meir, N. (2018). Morpho-Syntactic Abilities of Unbalanced Bilingual Children: A Closer Look at the Weaker Language. *Frontiers in Psychology*, 9. <https://doi.org/10.3389/fpsyg.2018.01318>

Meir, N., & Novogrodsky, R. (2020). Syntactic abilities and verbal memory in monolingual and bilingual children with High Functioning Autism (HFA). *First Language*, 40(4), 341–366. <https://doi.org/10.1177/0142723719849981>

Paradis, J. (in press). Sources of individual differences in the dual language development of heritage bilinguals. *Journal of Child Language*.

### **Narrative production in Arabic: methodological issues and findings in typical and atypical acquisition**

Elinor Saigh-Hadad<sup>1</sup> and Bahaa Mahamid<sup>2</sup>

<sup>1,2</sup>Department of English Literature and Linguistics, Bar-Ilan University

<sup>1</sup>The Gonda Multidisciplinary Brain Research Center, Bar-Ilan University

The talk will be divided into two parts. In the first part, we will discuss recent findings from research addressing narrative text production in Arabic with focus on methodological issues, primarily on the diglossic, code-switched nature of the language that children use in narrative production and how this diglossia-specific language use can be coded. The contribution of the diglossia-specific coding rubric to understanding the language and narrative skills of children will also be discussed.

The second part will present a recent study of the micro structure and macro structure narrative skills of Arabic-speaking children with Developmental Language Disorder (hereafter, DLD; mean age=5.6) and Typical Language Development (hereafter, TLD; mean age=5.7) using a retelling task of a story told in Modern Standard Arabic (hereafter, MSA). The study focuses on the use of MSA lexical and syntactic features and uses the same diglossia-specific coding rubric presented in the first part of the talk (Saiegh-Haddad & Spolsky, 2014). As expected, the results showed that children with DLD underperformed their TLD peers on all micro and macro structure measures. More interestingly, when diglossia-specific coding was used, children with DLD showed a deficit only on use of unique MSA words and of constructions with MSA word order. These results point to the usefulness of a diglossia-specific coding scheme in understanding typical and atypical language development in diglossia and in suggesting directions for intervention.

## Assessing Language Abilities and Exposure Practices of Yiddish-Hebrew Bilingual Children Using Parent Reports

שימוש בשאלוני הורים להערכת היכולת הלשונית ורמת החשיפה ליידיש ועברית

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Ultra-orthodox Hasidic communities in Israel maintain Yiddish as a prestigious language, connecting generations and persevering their traditional way of living. Yiddish-Hebrew speakers often live in closed communities and characterized by a high birthrate, low parental formal education, and low family income. The present work focuses on the effect of language exposure practices and family-related factors on

vocabulary size in both languages. Hebrew is defined as the Majority Language (MaL). Yiddish is the language used within the ultra-orthodox community defined as the Minority Language (MiL) or as the Community Language (CL). The support of Yiddish inside and outside of the family and the use of Hebrew as the MaL, present a unique model of bilingualism impacting language abilities and exposure practices which are investigated in the presented studies.

The first study tested the impact of the unique exposure practices and family-related factors on vocabulary size and language dominance using the CDI multicultural questionnaire which was geared specifically for the bilingual population in Israel. 34 Yiddish-Hebrew bilingual children ages 2-4 participated in this study. A significant difference was observed between Yiddish and Hebrew, with significant correlations between reported exposure to MaL-Hebrew and vocabulary levels in that language. Family size correlated significantly with MiL-Yiddish production. The dominant bilingualism is explained by the strong Yiddish-based identity of Yiddish-Hebrew speakers and its support from the environment. Vocabulary in the MiL-Yiddish grows with the family in the Yiddish population since more children attend schools which further support their MiL-Yiddish.

The second study investigated language exposure practices among bilingual Yiddish-Hebrew children in Israel and aims to reveal its possible influence on both language abilities and the community's vitality. 35 parents and children ages 37-80 months participated in the study. Parents filled out the Bilingual Parents' Questionnaire addressing the children linguistic environment and in-person interactions as well as their evaluated linguistic abilities in both languages. Results indicated significant differences between daily hours of exposure for each language, number of months in an educational setting and richness of the languages with clear advantage of CL-Yiddish (MiL-Yiddish) over MaL-Hebrew. Interpersonal exchanges outside the family supported CL-Yiddish and influenced ML-Hebrew abilities.

The unexpected role of family size and the dominant pro-MiL-Yiddish bilingualism undermines the definition of Yiddish as the MiL calling for a different paradigm of within-group and outside-group languages. Furthermore, Support of the community language usage combined with its prestigious status and demographic characteristics of the Hasidic community suggests a high vitality of the Yiddish speaking community in Israel.

## **Grammatical Gender as a Window to Different Acquisition Trajectories in Bilingual and Monolingual Children**

**"תפוז אדום או תפוז אדומה: רכישת נטיית המגדר בקרב ילדים דו-לשוניים"**

Hamutal Kreiner, Linguistic Cognition Lab and Department of Behavioral Sciences,  
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אחד האתגרים בפניהם ניצבים ילדים וילדות הגדלים בסביבה דו-לשונית הוא הצורך להבחין בין 2 מערכות השפה ולהימנע מלערבב ביניהן. מטרת המחקר שאציג הייתה לבחון כיצד מתמודדים ילדים דו-לשוניים עם אתגר זה ע"י בדיקת מהלך הרכישה של מין דקדוקי בשנים הראשונות במערכת החינוך הפורמלי. לצורך המחקר נבחנו מאה ושלושים ילדים מתוכם 70 שגדלו בבית חד-לשוני דובר עברית, ו-60 שגדלו בבתים דו-לשוניים דוברי רוסית-עברית. כשליש מהילדים היו בגן חובה, שלישי בכיתה א' ושלישי בכיתה ב'. לכל משתתף הוצגו 48 איורים של חפצים מוכרים, כך שהמין הדקדוקי של מחצית מהחפצים היה זהה ברוסית ובעברית, ובמחציתם השנייה היה המין הדקדוקי שונה בשתי השפות. המשתתפים התבקשו להגיד בקול רם צירוף של שם העצם ומילת תואר (צבע) המתאר את החפץ באיור. הם התבקשו להגיד את הצירוף ברבים על מנת שניתן יהיה לבחון את יכולתם להטות את שם העצם ולהתאים את התואר מבחינת המין המין הדקדוקי (לדוגמא, כדורים אדומים, חולצות כחולות). מהתוצאות עולה, כי למשתתפים הדו-לשוניים היו יותר שגיאות מאשר למשתתפים החד-לשוניים הן בהטיית הרבים של שם העצם והן בהתאמה של

המין הדקדוקי של התואר. אולם עם העלייה בגיל הם הלכו והשתפרו כך שבכיתה ב' שיעור ההצלחה שלהם היה דומה מאוד לזה של חבריהם החד-לשוניים. ניתוח מפורט יותר של ביצועי הילדים הדו-לשוניים הראה שבהטיית שמות העצם לא היה הבדל בשיעור הטעויות בין פריטים שהמין הדקדוקי שלהם זהה בשתי השפות לאלה שהמין הדקדוקי שלהם שונה. לעומת זאת, בהתאמת המין הדקדוקי של התואר היו להם יותר שגיאות בפריטים בהם המין הדקדוקי של הפריט היה שונה בעברית לעומת רוסית מאשר בפריטים בעלי מין דקדוקי זהה בשתי השפות. אציע פירוש למימצאים אלה במסגרת מודל תאורטי המדגיש את האינטראקציה בין תהליכים ארוכי טווח הקשורים להתנסות, לבין תהליכים המתרחשים בזמן אמיתי וקשורים לאינטראקציה בין שתי השפות בהן משתמש הדובר הדו-לשוני.

## The impact of book reading on the narratives of autistic children

### איך תשפיע פעילות קריאה על היכולת הנרטיבית של ילדים על רצף האוטיזם?

Ana Sandbank, Judy Kupersmitt, and Liel Menashe

Hadassah Academic College

This presentation focuses on the narratives produced by four preschool children with autism spectrum disorders (ASD) in a 'pretend reading' task. Participants were four children aged 5 to 6 years, who had been diagnosed with autism spectrum disorder and attended a special education kindergarten. The study replicates a larger one with typically developing children aged 3 to 5 years. For the larger study, parents were asked to read aloud to their child the Hebrew version of the picture book *Yanshufonim* 'Owl Babies' (Waddel & Benson, 1992), three times during a week period. A week later, children were asked to "read aloud" (a pretend reading task) the story to the interviewer. For the study with children with ASD, the children read the story to their kindergarten teacher after the interviewer – who was also providing language therapy sessions to the children – read them the book aloud.



This particular picture book is rich in illustrations and linguistic expressions that intertwine, performing diverse evaluative functions (e.g., evaluating the thoughts, feelings and beliefs of the characters and their actions) along a simple plotline. The main assumptions were that these characteristics would have an impact on the content organization of the narrative as well as on the diversity of the expressions that perform evaluative functions during the 'pretend reading' task.

The narrative analysis focuses on the organization of the narrative content. A qualitative analysis showed that all of them introduced the protagonists, mentioned the complicating event and the resolution. Yet, their stories differ from the original one, thus reflecting important constructive processes rather than a verbatim repetition.

The second domain of analysis focuses on the evaluative expressions from a form-function perspective. These expressions accomplished different functions such as reflecting the protagonist's points of view, providing causal information and states of mind among others. Findings support the idea that the quality of the story has an impact on children's narratives in terms of both content organization and the evaluative expressions. Finally, we present clinical insights regarding the impact of reading literature on children's narrative outcomes.



## תקצירי הפוסטרים

### Abstracts of posters

Tuesday, 10<sup>th</sup> of January – Adult language day

## Working memory and syntactic comprehension in bilingual Russian-Hebrew-speaking patients with aphasia

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**Background:** Aphasia is an acquired language disorder which involves a partial or complete loss of the ability to express or comprehend language. Patients with aphasia (PWAs) show deficits in understanding structures of varying syntactic complexity, e.g., canonical SVO sentences, passive constructions, relative clauses <sup>[1-3]</sup>. Verbal working memory (WM) can be considered an essential cognitive construct to support language processing. Its impairments may negatively affect comprehension, often observed in PWAs <sup>[6,7]</sup>. Understanding the symptoms and linguistic manifestations of aphasia is also important in bilinguals, whose numbers are growing worldwide.

**The aim of the study** was two-fold: first, to investigate the morphosyntactic abilities of bilingual PWAs (biPWAs) in comprehension of a wide range of syntactic structures in both languages; second, to assess the relationship between verbal WM and auditory sentence comprehension in this sample.

**Methods:** Twenty chronic-stage biPWAs due to left hemisphere stroke were assessed using the bilingual aphasia test (BAT, short versions) in L1-Russian and L2-Hebrew. Verbal WM was evaluated through the digit span, listening span <sup>[4]</sup> and modified listening span tasks <sup>[5]</sup> in each language separately. Visuospatial WM was measured through the Corsi block-tapping task.

**Results:** Significant difficulties were observed in both languages when processing passive constructions and negation (in both active and passive forms). In Hebrew, relative clauses with a past participle posed difficulties. Low performance on the verbal WM tasks was also demonstrated. The performance on the visuospatial WM task was relatively unimpaired compared to the verbal WM tasks. Significant positive correlations were detected between verbal WM and syntactic comprehension in L1-Russian ( $r = .776, p < .001$ ) and in L2-Hebrew ( $r = .743, p < .001$ ), also between languages in syntactic comprehension ( $r = .760, p < .001$ ) and digit span task ( $r = .940, p < .001$ ). Visuospatial WM did not exhibit correlations with syntactic comprehension abilities.

**Discussion and clinical conclusions:** The results confirm separate storage capacities for verbal and visuospatial information. Furthermore, it was shown that language comprehension and verbal WM are inter-related in bilinguals within the language and across languages. Verbal storage, as well as the ability to extract the correct meaning of the sentence, are likely to be affected by left hemisphere damage. On the theoretical side, the study contributes to the understanding of the specific difficulties in language comprehension in biPWAs speaking typologically different languages and the link between language comprehension and WM. On the clinical side, the study suggests that language and verbal WM treatment in combination could be promising for biPWAs.

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## **Efficacy of Semantic Feature Analysis (SFA) treatment in L1 and L2 in bilingual aphasia: Effects of background, language and cognitive factors**

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Semantic Feature Analysis (SFA) treatment has proven to be effective in alleviating word finding difficulties in patients with aphasia (Kempler & Goral, 2011; Kiran & Roberts, 2010). There is no consensus on the impact of SFA on naming abilities and general language skills in bilingual patients with aphasia (BiPWAs), nor on the factors that determine (a) the success of the SFA treatment, (b) within-language generalization, and (c) cross-language transfer (Edmonds & Kiran, 2006; Kiran & Iakupova, 2011; Knoph, Lind, & Simonsen, 2015; Simic et al., 2019).

The current study aimed to investigate the efficacy of SFA treatment in a group of L1-Russian – L2-Hebrew chronic stage BiPWAs, and to evaluate the contribution of background factors, language and cognitive measures on the success of the treatment.

Two groups of BiPWAs were recruited: the experimental group, which received SFA therapy in L2-Hebrew or in both L1-Russian and L2-Hebrew (n=10) and the control group, which requested to delay treatment due to the Covid-19 epidemic, but agreed to participate in the assessment phase (n=10). All BiPWAs completed the Bilingual Aphasia Test (BAT) in both languages, as well as a battery of 10 non-verbal and verbal cognitive tests and linguistic background questionnaires.

The results indicated a positive effect of SFA treatment in both L1-Russian and L2-Hebrew on naming of (a) treated items (direct effect), (b) semantically related items in the trained language (within-language generalization), and (c) translations of treated and

semantically related items (cross-language transfer). Importantly, we found significant improvements of general language skills in the treated and untreated languages in the experimental group, though the variability of results in individual patients should be noted. No such improvement was observed in the control group. Non-verbal inhibition and verbal working-memory in L1-Russian predicted overall success of the SFA treatment in BiPWAs participating in the current study.

SFA therapy in both L1 and L2 has positive effects on naming ability of BiPWAs. In addition, SFA therapy affects general language skills in BiPWAs. Yet, within-language generalization, cross-linguistic transfer, and maintenance of the treatment results vary across individuals. The success of SFA treatment in BiPWAs is predicted by cognitive abilities rather than background factors of bilingualism such as age of L2 acquisition, pre- and post-aphasia language proficiency in L1 and L2.

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## **Bilingual Neurogenic Stuttering: Cross-linguistic Considerations**

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The present study aims to investigate to what extent neurogenic stuttering differs across the languages of a bilingual Yiddish-English speaker with a moderate non-fluent aphasia. In order to consider the factors contributing to differential stuttering patterns in a bilingual speaker, the variables of emotion and articulation rate were examined.

The research questions are:

- 1) Does stuttering frequency differ between L1/Yiddish and L2/English?
- 2) How do the features of neurogenic stuttering, namely, type of dysfluency (stuttering-like vs. non-stuttering-like), word type (content vs. function), within-word location of dysfluency, and accessory behaviors, manifest in L1/Yiddish vs. L2/English narratives?
- 3) Are emotion and articulation rate related to stuttering behavior in L1/Yiddish and L2/English?

### Background:

There is inadequate literature directly investigating the characteristics of neurogenic stuttering in the bilingual population. However, based on the scanty literature of bilingual developmental stuttering, studies indicate that stuttering can affect one or both languages and with an equal or dissimilar effect. Additionally, emotions (both positive and negative) are positively correlated to dysfluencies (e.g., Choi, et al., 2016). Findings on speech rate and dysfluencies are less conclusive largely due to differences in analysis methods (Sawyer et al., 2008).

### Methods:

Thirty-two narratives (16 in each language) were elicited using cue words which were rated for emotionality and level of pleasantness. Narratives were analyzed for frequency of dysfluencies, type of dysfluency (stuttering vs. non-stuttering-like), word-type (content vs. function), within-word location of dysfluencies, and occurrence of accessory behaviors. Additionally, the percentage and type of emotion (positive vs. negative) expressed, and articulation rate (fluent syllables spoken/duration of fluent utterances) was assessed.

### Results:

- 1) Findings indicated that there were more dysfluencies (both stuttering and non-stuttering like) in L1/Yiddish than L2/English.
- 2) The most common stuttering-like dysfluencies were repetitions (monosyllabic, sound, and syllable) and prolongations. The most common non-stuttering-like dysfluencies were self-correction/revision, repetitions (phrase and multisyllabic words), and pauses (silent and filled). In both languages, dysfluencies occurred on both content and function words, but primarily content words, and in any position of the word, although primarily initial position. No accessory behaviors were noted.
- 3) There was a similar amount of emotion words used in each language although L1/Yiddish had an overall more positive tone and L2/English a more negative tone. A



faster articulation rate was found in L1/Yiddish than L2/English. Both emotion and articulation rate demonstrated a positive relationship with dysfluencies although it was more pronounced in L1/Yiddish than in L2/English.

#### **Discussion:**

Cross-linguistics differences in the frequency of dysfluencies in this participant shows that emotion and articulation rate impacts fluency and contributes to the dysfluencies in each language. Clinical implications of the study demonstrates the importance of bilingual assessment and the significance of considering emotion and slowing down articulation rate as strategies in intervention.

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## Morphology-Based Treatment for Hebrew Speaking Individuals with Aphasia

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### Introduction

Anomia is a common characteristic in all types of aphasia. Despite the extensive knowledge that has been accumulated on aphasia therapy, there are no naming treatments developed specifically for Hebrew, a Semitic language with rich morphology. Words sharing the same root are often semantically related (Dotan & Friedmann, 2015). Studies have shown the prominent role of the root morpheme in access to Hebrew words as early as the age of age of three (Berman, 1982). The aim of our study is to examine the effects of a new root-based treatment on naming of Hebrew speaking individuals with aphasia and its brain correlates using fMRI.

[www.hadassah.ac.il](http://www.hadassah.ac.il)

## Methods

Our treatment was composed of three steps: 1) Increasing morpho-phonological awareness to the semantic-morpho-phonological relations between words sharing a root. 2) Identification of morpho-phonological relations among words sharing a root, and; 3) Picture naming in a sentence completion task, containing a verb that has an identical root to the target word, as a clue (Kraizer & Novogrodsky, 2012).

**Participants:** Twelve adults with chronic post-stroke aphasia and significant anomia following a single left hemisphere (LH) stroke. All were native Hebrew-speakers, right-handed, with no other neurological history.

**Procedure:** Three pre-treatment naming assessments of morphologically complex words (root + pattern) were administrated. Based on each participants' naming performance, 30 treated words and 30 untreated words were chosen with matched levels of naming accuracy. Each participant received twenty bi-weekly treatment sessions, followed by three post-treatment naming assessments, and a follow-up assessment 10 weeks post-treatment. Treatment was delivered in-person to four participants, and online to the other eight participants, due to the Covid-19 pandemic, but was otherwise identical. Four participants were also scanned using fMRI before and after the treatment, while performing a picture naming task that included treated and untreated words.

## Results

*Treated Words:* All participants but one (11/12) demonstrated significant improvement from pre to post treatment. This improvement was preserved in the 10-week follow-up assessment for all eleven participants. Interestingly, three patients also showed a significant improvement from post-test to the follow-up session.

*Untreated Words*: Six participant significantly improved in naming untreated words following the treatment, a change that was significantly maintained for two of them in the follow-up session.

*fMRI*: Preliminary analysis shows that following the treatment there was increased activation in language homologous regions in the right hemisphere, including the angular gyrus, supramarginal gyrus and the middle frontal gyrus. These regions have been found to be involved in root processing among Hebrew-speaking adults (A. Bick et al., 2008; A. S. Bick et al., 2011; Bitan et al., 2020). Furthermore, increased activation following the treatment was found bilaterally in the precuneus, part of the default mode network.

### Conclusions

Following the morpho-phonological naming treatment all patients improved in naming the treated words and some participants demonstrated generalization to untreated words. These improvements were accompanied by increased brain activation in language homologous regions in the right hemisphere, reflecting reorganization of the language network. The bilateral increased activation of the precuneus might reflect patients' attention and engagement in the task following the treatment.

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## Code switching in the acute and intermediate phases of bilingual aphasia: A case report

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Severity of impairment and recovery of language functions in bilingual patients with aphasia (BiPWAs) could differ in their first language (L1) and second language (L2). Previous

research shows that the premorbid weaker language of bilinguals is usually more impaired in BiPWAs (Altman, Goral, & Levy, 2012; Lerman, Goral, & Obler, 2020). Code switching (CS) in spontaneous speech and in naming of individual objects and actions in BiPWAs is more frequent in the post-aphasia weaker language, either L1 or L2, and could be associated with language and cognitive control impairment (Abutalebi & Green, 2007; Lerman, Edmonds, & Goral, 2019).

In this study, we investigated CS patterns in a 58-year-old male, premorbidly unbalanced L1-Hebrew/L2-English BiPWA, who sustained a left MCA stroke. We tested object naming and narrative production at two time points: in the acute phase (3 weeks after the onset of aphasia) and in the intermediate phase (4 months after the onset of aphasia) Multiple language and cognitive measures were taken at both time points.

The data pointed at a more severe impairment of the less dominant pre-aphasia L2-English in the acute phase. Our rich language data pointed at the parallel recovery patterns of L1-Hebrew and L2-English in the intermediate phase of aphasia. Interestingly, we found differences in the directionality of CS in naming and narrative production: CS was frequently present in the L2-English narrative production and in the L1-Hebrew naming task. Qualitative analyses revealed different distributions of code switched items across the two languages. In the intermediate phase, CS in both languages nearly disappeared in both tasks. Furthermore, the cognitive data showed a slight improvement between the two points of assessment, more specifically on verbal working memory and language control.

We propose that CS patterns in the acute phase of this patient could be associated with lexical access difficulties in retrieving words in both languages (including L1-Hebrew) and with a language control impairment. Thus, we might speculate that in order to decrease CS in BiPWAs it is helpful to provide interventions that target language in combination with executive control.

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## **Statistical learning in the auditory and visual modalities in bilingual children compared to monolingual children**

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### **Abstract**

Statistical learning (SL) is a learning mechanism that helps deciphering regularities present in the input received by the senses, and enables, among other things, the optimal acquisition of natural language (Thiessen & Pavlik, 2013). For bilinguals, the experience of learning a second language requires the tuning of the auditory system to the patterns of two languages simultaneously (Peña et al., 2002). Many researchers have demonstrated that bilinguals have an advantage in diverse cognitive abilities, such as, attention and control networks (Costa et al., 2008; Hernández et al., 2010),

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and working memory abilities (Morales et al., 2013). Indeed, these systems are relevant to SL abilities, because they require unconscious reference to specific features of the stimuli (Turk-Browne et al., 2005). Therefore, it was hypothesized that due to the need to follow two linguistic regularities, bilinguals may have better SL abilities than monolinguals (Onnis et al., 2018). Thus far, evidence for this claim were sparse, as heterogeneity of the bilingual populations in the various studies and the use of different SL paradigms, without controlling for the effect of modality makes it difficult to reach conclusive results.

In the present study, we wanted to examine whether there is an advantage for bilinguals compared to monolinguals in SL abilities in the visual modality versus the auditory modality using a single SL paradigm (Probabilistic classification learning [PCL] task). Our hypothesis was that bilinguals, compared to monolinguals, would have superior performance specifically in auditory SL, while in the visual modality groups would show similar performance levels. Participants were 26 Hebrew monolingual children and 26 sequential bilingual children, whose mother tongue is English and were exposed to the Hebrew language after the age of 3 years old. The results showed that while the monolingual children showed better visual SL abilities than in the auditory modality, the sequential bilingual children showed higher SL abilities in the auditory modality compared to the monolingual children, thus comparing their auditory SL performance to the visual one. These results support the hypothesis that compared to monolingual children, bilingual children have better auditory SL abilities, thus furthering our understanding about the specific relation between auditory SL and language learning.

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## תקצירי הפוסטרים

### Abstracts of posters

Thursday, 12<sup>th</sup> of January – child language day

## Unexpected language acquisition and language use among Arabic-speaking children with autism: Two case studies

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**Background:** A heterogeneity of linguistic and cognitive profiles is reported among children with Autism Spectrum Disorder (ASD) (Tager-Flusberg, 2016). Recently, several case studies showed unexpected acquisition of a second language among children with ASD (Vulchanova., 2012; Zhukova et al., 2021). Furthermore, the unexpected use of Standard Arabic in every day conversations was documented among five Tunisian Arabic-speaking children with ASD (Kissine et al., 2019). The latter finding is intriguing considering the use of two language varieties within the same speech community: Spoken (SpA) and Standard (StA) (Saiegh-Haddad, & Spolsky, 2014).

**Objective:** Our study aimed to investigate atypical acquisition and use of StA and English in Palestinian-Arabic -speaking children with ASD.

**Methods:** We used two tasks: (i) Arabic noun and verb production tasks (Saiegh-Haddad & Armon-Lotem, 2020); and (ii) LITMUS narrative production task (Gagarina et al., 2015) to shed light on the lexicon composition of children with ASD raised in the monolingual Palestinian-Arabic-speaking communities. We will present the findings from two 8-year-old children (a boy 'S' and a girl 'H') with different language profiles, matched for non-verbal intelligence (Raven) and socio-economic status (SES).

**Results:** In the lexical production task 'S' preferred StA (59% of the words) over SpA words, while 'H' preferred SpA (75% of the words) over StA, and surprisingly 5% of the words were produced in the English language. In the narrative task, 'S' chose to

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produce the story in StA (97% of the words) and he showed a striking mastery of StA morpho-syntactic structures. For examples, he resorted to "VSO" sentences as opposed to "SVO" (the default word order in SpA) and he showed a good mastery of dedicated case markings, used solely in StA. Interestingly, 'H' chose to produce the story in English (100% of the words), then she was requested to do it again in SpA. While in English, 'H' used complex sentences, in SpA she resorted to simple and coordinated sentences. Past tense verbs inflections were challenging in both languages.

**Conclusions:** In conclusion, both children demonstrate a surprising mastery of a language that is not the ambient language of their environment. Therefore, it raises the possibility of language acquisition even in the absence of social interaction. Such studies may help us understand the mechanisms underlying language acquisition and language use among children with ASD. On the applied side, the findings point at the need to encourage professional and families to communicate in the language chosen by the children.

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## **Pragmatics meets Morphosyntax in Natural and Unexpected bilinguals with Autism: Evidence from Referential Expressions in English and Hebrew**

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**Introduction:** The production of referential expressions is an essential part of effective communication. To deliver a proper message, one needs to employ pragmatic

judgments about what is appropriate in each context. This process involves conscious and unconscious decisions regarding how explicit one needs to make the referring expression (e.g., 'it' vs. 'the cat'), or between a more and less detailed description ('the furry cat' vs. 'the cat') (Arnold, 2008). Referential choice is also related to morphosyntax, naming the choice between 'he' vs. 'him.' Difficulties with pragmatics have been proposed to be associated with ASD and are often described as a "hallmark feature of ASD".

**Objectives:** The study aimed to investigate the effects of ASD and bilingualism on the choice of referential expression in both languages of bilinguals which differ with respect to the pronoun drop properties: English is a [-pro-drop] language, while Hebrew is a partial [+pro-drop] language. We aimed to investigate referential choice in bilinguals with ASD who acquire both of their languages naturalistically and those who show unexpected bilingualism, i.e., children who spontaneously acquired the English language without a systematic instruction or interactive exposure to an English-speaking environment.

**Methods:** A total of 43 bilingual Hebrew-English speaking children (ages 4.5-11 years old) participated in three groups: BiASD-HE (bilingual children with ASD) and BiTLD (bilingual children with TLD) who acquired English naturally from birth as their heritage language; and BiASD-IT (bilingual children with ASD who acquired spontaneously English via the Internet). As baseline measures, we assessed children's morphosyntactic abilities via LITMUS sentence repetition tasks in English and in Hebrew (Marinis & Armon-Lotem, 2015; Meir, Walters & Armon-Lotem, 2016) and Theory of Mind abilities. The three groups did not differ on this baseline measures. In order to shed light on children's referential choice, experimental tasks targeting subject and object pronouns were administered in English (Varlokosta et al., 2016) and in Hebrew (Meir & Novogrodsky, 2019). Children's responses were coded for overt pronouns, null pronouns, and full noun phrases.

**Results:** Our preliminary results show that group differences were not pronounced. In all three groups traces of cross-linguistic influence were observed in the choice of referential expressions. More specifically, all children omitted pronouns in English in subordinate clauses (The boy is crying because hurt, i.e., transferring the [+pro-drop] option from Hebrew to English).

**Discussion:** Thus, the results show that if children with ASD reach TLD-like levels on morphosyntax and Theory of Mind, referential choice might be also TLD-like. Clinical and theoretical implications will be discussed.

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## Cross-linguistic influence in nominal morphology among Russian-Hebrew bilingual children

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**Background:** The acquisition of two languages that mark gender on all parts of speech yields fertile ground for cross-linguistic influence. In Hebrew, gender distinction is expressed in the singular agreement, noun pluralization and plural agreement. In Russian, gender distinction is expressed in the singular agreement construction only. The present study explores how cross-linguistic influence of Russian gender is manifested in Russian-Hebrew bilingual children's production of plurals and agreement structures in Hebrew.

**Method:** 95 Russian-Hebrew bilinguals (ages 4-8; four educational settings: pre-kindergarten, kindergarten, 1st grade, 2nd grade; age of onset of bilingualism before 3) were tested in Hebrew. The groups did not differ in the number of maternal years of education and on age of initial exposure to Hebrew. Three structured sentence completion tasks were used: singular adjective agreement task, noun pluralization task, and plural adjective agreement task (same 99 stimuli in each task). The stimuli differed in Hebrew gender, in Russian gender and in the congruence / incongruence between the nouns' gender in the two languages.

**Results:** Influence from Russian affected the performance of bilingual children in singular agreement production – in this task the error rate was higher for words with incongruent cross-linguistic gender than words having the same gender in both languages. In both kindergarten-levels and 1st grade, the difference was significant ( $Z \leq -2.47$ ,  $p \leq .01$ ). In regular noun pluralization no significant difference was found between these two conditions ( $Z \geq -1.89$ ,  $p \geq .06$ ), with very low error rate for both



types of congruency. For irregular plural words, in the 1st and 2nd grades significantly more errors were produced for the congruent state than the incongruent state ( $Z \leq -2.51, p \leq .01$ ; e.g. for the noun *shulxan* 'table' Hebrew-MUSC Russian-MUSC, \**shulxan-im* MUSC-gender MUSC-suffix was produced, instead *shulxan-ot* MUSC-gender FEM-suffix). For the regular plural agreement, no significant difference was found between the two types of congruency ( $Z \geq -1.74, p \geq .08$ ), with low error rate for both type of the nouns. For the irregular plural agreement, both structures were characterized by a very high error rate, without significant difference between the two types of congruency, in all educational settings ( $Z \geq -1.05, p \geq .3$ ).

**Conclusions:** The influence of Russian in bilingual performance depends on the type of structure involved, reflecting the differential existence/non-existence of a gender distinction within the target construction in Russian, combined with the characteristics of the Hebrew target structure. In addition, the influence of L1 depends on the child's length of exposure to L2.

### מאפייני דיבור מופנה תינוקות בדיאדת אם-תינוק:

#### השוואה בין אם לתינוק עם חירשות לעומת אם לתינוק עם שמיעה תקינה

פיונה מרגליות, הילה יעקבי (Ph.D.)

המכללה האקדמית הדסה

דיבור מופנה תינוקות (להלן, IDS; Infant-directed speech) הינו בעל מאפיינים ייחודיים, אשר מסייעים ומשפיעים על התפתחותו השפתית והתקשורתית של התינוק ( Graf Estes & Hurley, 2013). אולם, כאשר נולד תינוק המאובחן עם חירשות, היכולת של ההורה לתקשר עמו באופן טבעי עלולה להיפגע, הן מחוסר התגובה של התינוק לגירויים השמיעתיים שמספק ההורה, והן מנטייה למיעוט מתן גירויים שמיעתיים בעקבות מצבו הרגשי של ההורה לאחר קבלת האבחנה

(Cole & Flexer, 2007). קידום דיאגנוזה 'הורה-תינוק' ובכללו IDS מיטבי, כמו גם יצירת סביבה עשירה שמיעתית, שפתית ותקשורתית, הינם בעלי חשיבות רבה בתקופה, שמהווה גשר טיפולי בין אבחנת החירשות ועד לניתוח שתל השבלול ולאחריו. באופן טבעי, IDS בדיאגנוזה הורה-תינוק כולל מאפייני דיבור ותוכן מגוונים, אשר נמצא כי הם מהווים עמודי-תווך בהתפתחות שפה עוד בשלב הקדם מילולי (Rowe, 2012).

מטרת המחקר הנוכחי הייתה לבחון את מאפייני ה-IDS בדיאגנוזה בין אם לתינוקה, המאובחן עם חירשות, וזאת בתקופה שבין קבלת האבחנה לבין התחלת השיקום השמיעתי, שיבוצע על ידי ניתוח שתל שבלול. מאפייני הדיבור בדיאגנוזה זו נבדקו באמצעות צילומי וידאו ביתיים בשלוש נקודות זמן, בגיל חמישה, שבעה ושמונה חודשים. הדיאגנוזה ההורית כללה חמישה סוגי אינטראקציות שונים על מנת לכלול מגוון הזדמנויות לתקשורת בין האם לתינוק ואלו כללו, אינטראקציה חופשית ושימוש בחפצים קבועים (ספר קריאה בעל עלילה, ספר שיום, צעצוע ללא פונקציה ברורה וצעצוע בעל פונקציה של סיבה ותוצאה). מרכיבי ה-IDS נותחו הן עבור מאפייני דיבור (לדוגמה, כמות מילים, אחוז מילים חדשות וחזרתיות ועוד) והן עבור מאפייני תוכן (לדוגמה, שימוש בהנחיות, חיקוי ועוד). מאפייני ה-IDS שהתקבלו עבור התינוק המאובחן עם חירשות, הושו למאפייני דיבור של אם לתינוק עם שמיעה תקינה וזאת בשלוש נקודות הזמן שנבחנו. מניתוח הנתונים עולה כי האם לתינוק עם חירשות השתמשה במאפייני דיבור התומכים בהתפתחות שפה, כגון שימוש במבעים קצרים, חזרתיות ושימוש באונומטופאיות. יחד עם זאת, כאשר נבדקו מאפייני תוכן הדיאגנוזה ובהשוואה לאם לתינוק עם שמיעה תקינה, הייתה ניכרת היענות נמוכה של האם לתינוק עם חירשות, שימוש מועט בחיקוי, ושימוש רב בציוויים והנחיות. תוצאות המחקר מדגישות את החשיבות של ניתוח IDS, הן עבור מאפייני הדיבור והן עבור מאפייני התוכן בדיאגנוזה. כמו כן, המחקר מדגיש את הצורך במתן הדרכת הורים מעמיקה מיד לאחר קבלת אבחנת החירשות לתינוק הנולד. הרחבת הידע אודות שימוש במאפייני דיבור מותאמים ומגוונים בדיאגנוזה הורה-תינוק עשויה להעמיק ולשפר את כמות ואיכות ה-IDS שניתן לתינוק עם חירשות עוד טרם ההתערבות הניתוחית.