To the HSE Dissertation Council  
in Philology and Linguistics

Personal written reference  
of the Dissertation Committee Member  

Dr. Natalia Meir

On the dissertation of Vardan Arutiunian

Overall Merit of the PhD Thesis: The PhD thesis By Vardan Arutiunian presents a pioneering research study documenting language profiles of Russian-speaking children with Autism Spectrum Disorder (hereafter ASD). Research investigating language skills of Russian-speaking children with ASD is scarce, thus the current PhD thesis makes a significant added-value contribution to the field of clinical linguistics, in general, and more specifically, to our understanding on the development of language skills of Russian-speaking children with ASD. The three original peer-reviewed research studies which comprise the PhD thesis are ALL published papers at top-tier international journals with high impact factors (see below). The fact that ALL the three studies have been accepted for publication at top-tier journals is an amazing achievement for any PhD candidate. Therefore, this achievement testifies to the fact that the study is innovative, important and conducted in an impeccable manner following the rigorous methodological precision.


Study 1 concerns typical language development while Studies 2 and 3 logically document the heterogeneity of language profiles of Russian-speaking children with ASD across different language domains and the potential underlying mechanisms accounting for a large heterogeneity in the ASD population. Besides the important theoretical implications, the three studies which comprise the current PhD thesis have also invaluable clinical implications equipping clinicians with the compelling evidence which should serve as a basis for developing tailor-made interventions based on a through language assessment of children with ASD.
**Study 1** (Arutiunian & Lopukhina, 2020) is a published peer-reviewed study which evaluates the effect of phonological neighborhood density (PND) on word production and word comprehension in Russian-speaking children compared to adult controls. The study motivated by conflicting evidence from English and Spanish. In English, it is reported that PND facilitated word production yet inhibited recognition for adults. Conversely, a reverse PND pattern was reported for Spanish-speaking adults. Thus, based on these cross-linguistic differences, the study was set to test PND effect in Russian speaking adults, and secondly to test the effect of PND developmentally by comparing adults and children. Word production and recognition was tested in 4-to-6-year-old Russian children (n=25) in comparison to Russian adults (n=20). For the word production experiment, Nouns Stimuli Database for Russian (Akinina et al., 2016) was used. The reaction time from the picture onset till response onset was measured via the AutoRAT application (Ivanova et al., 2016). For the recognition experiment, all pictures were selected from the Verbs and Nouns Stimuli Database for Russian (Akinina et al., 2016) and colored. The SMI RED-m portable eye-tracker was used in the recognition experiment. The results showed that for Russian-speaking children and adults, effects of PND were similar to Spanish-speaking adults, and contrary to English-speaking adults. Russian-speaking adults produced words with dense neighborhoods more slowly while recognized them faster than words with sparse neighborhoods. Russian children showed the same PND effect in recognition whereas no PND effect was found in production. The study uses rigorous experimentation (including eye-tracking) to test the set theoretical accounts. The statistical analysis relying on mixed-effects methods using R reflects the latest advancements in data analysis. The manuscript is clearly written.

To conclude, Study 1 has important theoretical conclusions on lexical processing showing that effects of PND vary cross-linguistically. This study is not on language skills of children with ASD. I am sure that the same questions regarding PND effects in lexical processing (production and comprehension) in children with ASD can be asked. I would recommend Vardan to investigate the collected data and evaluate to what extent the effects of PND in children with and without ASD are similar / different. I am curious to hear Vardan’s predictions on PND effects in children with ASD.

**Study 2** (Arutiunian et al., 2021) addresses the complexity of linguistic profiles of Russian-speaking children with ASD (n=82) aged 7.01–11.10 by comparing the expressive and receptive language abilities at the levels of vocabulary, morphosyntax, and discourse. The study is well-motivated: Previous results conflict with respect to the gap in productive and receptive skills of children with ASD. Some previous studies report more impaired receptive skills in individuals with ASD, while other studies report the opposite profiles and some studies showing no gap between receptive and productive abilities. In order to address this broad clinical question, children with ASD were tested on the Russian Child Language Assessment Battery, RuCLAB (Lopukhina et al., 2019), tapping into vocabulary (word production vs. comprehension), morphosyntax (sentence production vs. comprehension), and discourse (text production vs. comprehension). All children with ASD in the study were diagnosed with ASD prior to the study, and their diagnosis was confirmed also by ADOS (Lord et al., 2012). Non-verbal IQ was also measured for the purposes of the study. The results revealed a complex picture: there were significant differences between receptive and expressive skills for words (with comprehension being accurate) and discourse (with comprehension scores being lower), yet on morphosyntax the receptive-expressive gap was not significantly different. Furthermore, the study showed that children with a comorbid intellectual disability scored lower than their peers with ASD without intellectual disability.

To conclude, the study brought important evidence that receptive-expressive gap is not a universal hallmark of ASD language profiles. The study convincingly demonstrate that the receptive-expressive gap depends on autistic children’s non-verbal profiles and language domains. I highly value this pedantic
approach to a complex question and the authors’ demonstration that language and cognitive profiles of children with ASD should be thoroughly investigated in order to provide the most effective therapy to these children.

Study 3 (Arutiunian et al., 2022) is also a published peer review paper which describes language profiles of children with ASD using the Russian Child Language Assessment Battery (RuCLAB, Lopukhina et al., 2019) which is comprised of 11 tests; the Phoneme detection test from the Russian Test of Phonological Processing (RuToPP, Dorofeeva et al., 2020), and a custom-made Word repetition test. These 13 tests allowed the authors to assess the language abilities of children with ASD at all linguistic levels (phonology, lexicon, morphosyntax, and discourse) in production and comprehension. A total of 82 children with ASD aged 7.01–11.10 years and 25 aged-matched controls participated in the study. The results demonstrated that as a group, children with ASD scored lower than their peers without ASD on ALL the asks.

I applaud the PhD candidate, his supervisors and the HSE lab members for this innovative thoroughly conducted work. I have read these published papers the moment they became available as these studies make an important contribution to clinical linguistics by documenting language development in Russian which is still rather an under-represented language in clinical studies. And I wish Vardan Arutiunian lots of luck in his future scientific career and I look forward to many more exciting studies in the domain of language acquisition and development in individuals with ASD. The study showed that children’s language scores were related neither to their chronological age nor to their ADOS scores (which measure ASD severity). However, language scores are related to children’s non-verbal skills. Furthermore, I particularly appreciated the authors’ description of diverse language profiles: children with ASD might have NORMAL, BORDERLINE and IMPAIRED language skills (as demonstrated in Table 6).

To conclude, the study provides a comprehensive assessment of expressive and receptive skills of children with ASD across different language domains. I echo the authors’ conclusions stating that “The results of the study highlight the importance of understanding the language strengths and difficulties in children with ASD, regardless of communicative skills in order to provide effective therapy”.

Recommendation: My conclusion is that the PhD thesis of Vardan Arutiunian presents an original compelling study of immense theoretical and applied importance for the field of clinical linguistics, to be more specific in the domain of language acquisition in children with ASD. I whole-heartedly recommend that the candidate is awarded the doctoral degree, after successful oral defense.

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Natalia Meir (PhD)
Senior Lecturer/ Coordinator for Linguistics in Clinical Research Program
Department of English Literature and Linguistics
Bar-Ilan University
Email: natalia.meir@biu.ac.il

Associate Editor: Applied Psycholinguistics
Guest Editor for Frontiers in Psychology: International Mother Language Day: Enhancing Home Language Development from a Young Age
Multilingual and Multicultural Affairs Committee Member: IALP