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Reflections on Developmental Profiles in Autism

Silleresi, S. *Developmental Profiles in Autism Spectrum Disorder: Theoretical and Methodological Implications*. John Benjamins: Amsterdam, The Netherlands, 2023, 287 pp

Reviewed by Pauline Wolfer and Stephanie Durrleman, University of Fribourg (Switzerland)¹

The volume under review, authored by Silleresi (2023), is concerned with the heterogeneity of both monolingual and bilingual children with Autism Spectrum Disorder (ASD). Alongside the recognized dyad of core autistic symptoms (American Psychiatric Association, 2013), the author observes that autistic children show diversified linguistic and intellectual abilities that have been categorized into the following four subgroups by the International Classification of Diseases ICD-11 (World Health Organization, 2018): (1) autism with both language and intellectual abilities within the norm (called ASD-LN without intellectual impairment), (2) autism with both impaired language and intellectual abilities (ASD-LI with intellectual impairment), (3) autism with spared language skills but with intellectual impairment (ASD-LN with intellectual impairment) and finally (4) autism with impaired language skills but intellectual abilities within the norm (ASD-LI without intellectual impairment). The overarching goals of this work are to determine whether these profiles are detectable with reliable tools for children growing up with one or two languages, and to explore the potential of interactive technologies for evaluating and addressing language difficulties in this population.

After an introductory chapter recalling key concepts related to autism, the author proposes a detailed review of studies investigating structural language (i.e., phonological and morphosyntactic) skills in autistic children of varying linguistic and intellectual abilities. This rich overview highlights crucial research gaps, such as the under-investigation of bilingual children with ASD, and offers interesting and pivotal research perspectives, such as the need to study children with intellectual impairment for a more realistic depiction of the whole autistic spectrum. The scoping review on structural language also reveals the variability of the tasks used and their inherent biases, explaining the heterogeneity of results. As the myriad of results reported does not always allow for firm conclusions to be drawn, the author seeks to rigorously identify the most suitable tools to efficiently measure linguistic (Chapters 2 and 3), intellectual (Chapter 4) and autistic (Chapter 5) traits in children. On the one hand, the critical perspective offered of the studies to date will be of much use to readers looking to gain insight into current investigations of language in ASD, and the attention to study design in this work to pursue these investigations ensures more replicability with respect to previous studies. On the other hand, a clearer justification of the author's criteria to select a sentence repetition task for structural language assessment in ASD would have been welcome, especially since this population displays a prevalence of echolalia (Van Santen et al., 2013) and repeating sentences does not guarantee that they are understood (Frizelle et al., 2017).

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Throughout the book, the fact that bilingualism is an object of study in its own right should be acknowledged as a clear strength, considering the growing number of autistic individuals exposed to more than one language, for whom evidence-based recommendations are needed (Beauchamp & MacLeod, 2017), particularly for (bilingual) autistic children *with* intellectual impairment who are often absent from studies (Russell et al., 2019). In light of this, the experimental part of this project (Chapter 6) investigating language and IQ throughout the entire spectrum is highly commendable. The findings continue to underscore that being exposed to more than one language is not detrimental (Gilhuber et al., 2023), even when an intellectual impairment is present, which is a compelling argument to support bilingual policies for this understudied population. Still, considering the growing body of work reporting the multidimensional and heterogeneous nature of bilingualism (e.g., Luk & Bialystok, 2013), and emphasizing the importance of its characterization (e.g., Marian & Hayakawa, 2021), it would have been desirable that the inclusion criteria for the bilingual group be explicitly articulated and subgroups of participants with different bilingual experiences be explored (Hantman et al., 2023).

Another innovative aspect of this work is the cluster analysis, which enables the identification of the four profiles described in the IDC-11 classification. If the meticulous description of these clusters is already an outstanding achievement, a qualitative exploration of the errors beyond the quantitative analysis would have served to inform the current debate on whether formal language impairment attested in ASD resembles that reported for DLD (Schaeffer et al., 2023). Also, regarding the cluster analysis, it is intriguing that certain profiles do not emerge, for instance autistic children with language impairment and high non-verbal intellectual skills (ASD-LI with *high* NVIQ). In our view, that this subgroup is largely missing from the present work would have been a logical point of departure for considering approaches predicting this dearth (Hinzen et al., 2020). Another group that is not identified is one without language impairment with *very* low non-verbal skills (ASD-LN with *very* low NVIQ), which begs the question whether this reflects the non-existence of such individuals or rather, as we ponder here, researchers' inability to detect them due to selection bias (Russell et al., 2019) and methodological limitations (Flynn et al., 2017; Woodall et al., 2010). This latter "discrepant" profile is shown to emerge once non-verbal skills are merely 'low' (as opposed to *very* low) in the well-known "Savant Christopher" (Smith & Tsimpli, 1995), a polyglot autistic adult displaying "normal" linguistic skills alongside low intellectual abilities. Nevertheless, the author at times classifies Christopher's IQ as "severely low" (p.80) estimated on his (40 to 60) standard scores on the *Draw a Man Test* (Goodenough, 1926). No mention is made in these instances of his scores of 75 and 76 obtained respectively at ages 14 and 32 on the Raven's Progressive Matrices (Morgan et al., 2002), although this tool had been claimed to be the most reliable one for non-verbal IQ measurement (Chapter 4). Moreover, considering Christopher's difficulties with complex grammatical structures (e.g., topicalization and dislocation) even in his first language (Smith & Tsimpli, 1995), the very classification of his profile in the ASD-LN category seems debatable. Although "discrepant" profiles are scarcer and this scarcity must be theoretically accounted for, Silleresi's careful work nevertheless reveals that they are attested to a certain extent and, as such, provides further empirical support for the theoretical view of language

modularity. This revelation also contributes to heightening societal awareness of the possible language-cognition dissociation, increasing chances for appropriate clinical response.

Finally, a new avenue of research via interactive technologies to train structural language skills in autistic children is presented. The author's consideration of the numerous advantages underlined here for these tools (e.g., systematicity, portability, adaptability) and specifically for this population (e.g., motivating, engaging), convincingly argues in favor of further developing and adopting these promising methods in clinical and research settings. This is particularly crucial for autistic children with intellectual impairment and even non-verbal participants for whom traditional assessment and training generally entails considerable hurdles. However, the decision in the author's own studies, to opt for a sentence repetition task to assess these skills, yet not to train them, warrants justification.

In sum, despite a few points inviting further explanation highlighted above, Silleresi's volume is an important state of the art on formal language and IQ in children with autism, growing up with one or two languages and from all levels of symptom severity, which moreover indicates insightful future perspectives in this field. This clear and accessible book² will be of interest to both budding and experienced researchers as well as clinicians seeking to attain a deeper understanding of the potential profiles attested, or to gain insights into optimal assessment and remediation techniques, for both bilinguals and monolinguals with ASD.

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² A few typos leading to confusion should be corrected in a second edition of the manuscript. For instance, when presenting the “fourth” profile of children with *no* language impairment (but *with* intellectual impairment, p.8), the group is erroneously qualified as having both language and intellectual impairment (due to omission of the negation), and when presenting the groups with intellectual impairment (in Figure 2, p.41) the groups on the right are mistakenly classified as not displaying intellectual impairment.

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