"HIS FIRST WORDS ARE TO THE DENTIST": ASSESSING A MIXED-ETHNICITY HIGH-FUNCTIONING AUTISM CHILD WITH UNUSUAL LANGUAGE DEVELOPMENT

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ABSTRACT

Unusual speech development is a prevalent factor leading to autism evaluations. This case study presents the assessment procedure for a preschooler of mixed ethnicity who exhibited atypical speech, rigidity, and difficulty with transitions. The assessment results confirm a diagnosis of high-functioning autism spectrum disorder (ASD). This case study illustrates the diverse modes of language acquisition in children with autism, suggesting that their speech development may differ from neurotypical peers. Future studies could investigate the language acquisition patterns of ASD children who engage in non-social language learning. Understanding the challenges faced by these individuals can play a crucial role in tailoring effective and culturally sensitive interventions to support their overall well-being and development.

Keywords: *high functioning autism, psychological assessment, language development*

INTRODUCTION

Autism Spectrum Disorder (ASD) is a complex neurodevelopmental disorder characterized by core deficits in social communication and restricted, repetitive behaviors (APA, 2022). In Asia, the prevalence of ASD is approximately 0.4% (Salari et al., 2022). The average age of being diagnosed with autism is around 3.5 years (van't Hof et al., 2021).

One of the most common symptoms that lead to a referral for ASD evaluation is language delay (Parmeggiani et al., 2019) with over 60% of the parents reported it as their most frequent concern (Jayanath & Ozonoff, 2020). Children with ASD often exhibit unconventional language use, including delayed speech, repetitive speech, echolalia, and the use of pedantic and idiosyncratic language (Vogindroukas et al., 2022).

The present case study aimed to describe the psychological assessment conducted for a preschooler with unusual speech patterns, rigidity, and emotional issues. The uniqueness of this case is attributed to the child's mixed-ethnicity background, which could be an additional complexity to his speech and language development.
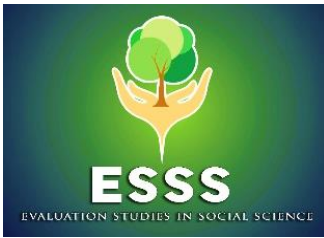
CASE PRESENTATION

Background information

KP, a 5-year and 10-month-old boy, was referred for psychological assessment due to his struggles in following classroom instructions and his tendency to become emotional easily. While he is cheerful at home, his parents noted his repetitive questioning when demanding things and his struggles with changes.

KP's father is Mandarin-speaking Chinese, while his mother is Malay-speaking Indonesian. His parents are less educated and communicate in simple Malay with each other. KP is closer to his mother and seeks affection from her. He has two older brothers with normal development. There is a family history of learning disability on the paternal side.

KP walked late at 2 years old. During his early years, KP rarely talked, leading his parents to think he was "mute." It was a surprise to his parents when he fluently answered in English during a dentist visit at around 3 to 4 years old. For example, he replied to the dentist, "I like to eat carrots" when asked about his favorite food. Since then, his mother began to learn basic English and spoke to him in English or communicate with him via Google Translate. His parents reported that KP tends to engage in scripted speech (e.g., "Breaking news! You have to wear the mask."). He communicates with his father through gestures as he refuses to learn Mandarin, expressing that he is an "English boy." However, he took his own initiative to read and write Russian from videos.

KP displays rigid eating habits (e.g., consuming pizza only when it is hot and yogurt when it is cold or food that he specifically requested for the day). He also exhibits sensitivity to haircuts and wet clothes. For play, KP does not engage in pretend play but enjoys taking toy vehicles apart and rebuilding them. His parents observed that he has a habit of drawing in the air when contemplating something.

KP did not attend preschool till he was 6 years old due to the pandemic lockdown. His father's desire for him to learn Mandarin led to his enrollment in a Chinese kindergarten. However, this only lasted for a month as his teacher complained about his lack of interaction with others and refusal to eat. Consequently, his parents transferred him to another Malay-speaking kindergarten. In this current school, he appeared happier and has made progress academically in Malay, but he has yet to be able to make friends and refuses to eat food provided by the school.

Ethical consideration

Parental consent was obtained before conducting the psychological assessment. Parents also provided consent for case study publication.

Assessment results

A number of tests were conducted to evaluate KP's cognitive, attention, and social-emotional skills. First of all, the Wechsler Nonverbal Scale of Ability (WNV; Wechsler &
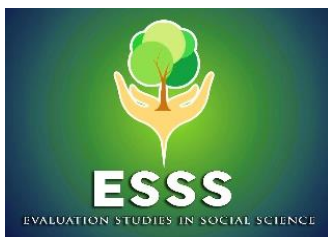
Naglieri, 2006) was administered to evaluate his cognitive abilities. His non-verbal intelligence was estimated to be in the Average range (Full scale score = 103). He performed better than 58% of children in his age group. Table 1 summarizes his WNV's subtests results.

Table 1
WNV results

Subtests	Measures	T-score	Age Equivalent (year:month)
Matrices	perceptual reasoning	55	6:10
Coding	graphmotor speed	46	5:4
Object Assembly	perceptual organization	53	>7:10
Recognition	immediate visual memory	52	6:2

The Strengths and Difficulties Questionnaire-Malay (SDQ-Mal; Goodman, 1977) was administered to his parents and class teacher to screen on his overall emotional and behavioral functioning. His parents and teacher reported Slightly Raised level of peer problems. His teacher also reported Very High level of emotional difficulties and Slightly Raised level of conduct problem, hyperactivity, and lack of prosocial behaviors. Refer to Table 2 for his SDQ-Mal's results.

Table 2
SDQ-MAL results

Subtests	Standard score (Descriptive Category)	
	Parents	**Class teacher**
Emotional difficulties	2 (Close to Average)	6 (Very High)
Conduct Problem	2 (Close to Average)	3 (Slightly Raised)
Hyperactivity	4 (Close to Average)	6 (Slightly Raised)
Peer problems	3 (Slightly Raised)	3(Slightly Raised)
Prosocial	9 (Close to Average)	5(Slightly Raised)
Total	11 (Close to Average)	18 (High)

The Gilliam Autism Rating Scale-Third Edition (GARS-3; Gilliam, 2014) was administered to his class teacher to assess the probability and severity of autism spectrum disorder. He obtained an Autism Index of 92, suggesting a Very Likely probability of Autism Spectrum Disorder (ASD) with severity estimated at Level 2, requiring substantial support. Based on the subscales, his teacher observed the highest level of difficulty in the areas of emotional responses. Refer Table 3 for GARS-3 results.
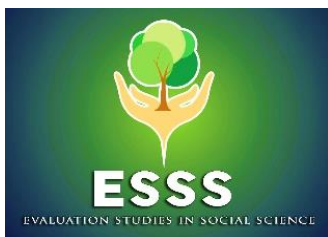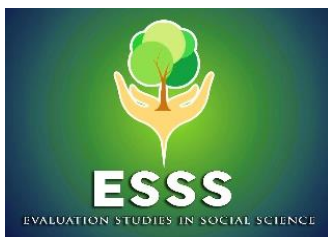
Table 3
GARS-3 results

Subscales	Scaled scores	Percentile rank
Restricted/repetitive behaviors	7	16th
Social interaction	9	37th
Social communication	8	25th
Emotional responses	13	84th
Cognitive style	8	25th
Maladaptive speech	9	37th

Childhood Autism Rating Scale, Second Edition High Functioning Version Rating Booklet (CARS 2-HF; Schopler et al., 2010) was used to evaluate KP's autism symptoms based on the clinician's observations. He obtained a raw score of 30.5 (T-score= 46), which indicates Mild to Moderate symptoms of ASD. His symptom level is higher than 35% of individuals with ASD. Generally, KP maintained fair eye contact. He spoke in fluent English but with a strong accent and a pedantic style. During play activities, KP exhibited some joint attention, particularly while engaging in a cooking game. During the cognitive test, he tended to give up easily. Nevertheless, with encouragement, he was able to persevere and successfully complete the tasks. While he displayed a cheerful mood during playtime, he cried and took more than 15 minutes to settle when he needed to transition back to classroom activities and deskwork.

DISCUSSION AND CONCLUSIONS

Based on the assessment, KP receives the diagnosis of Autism Spectrum Disorder (ASD), without intellectual impairment, requiring support (Level 1) for social communication deficits and restricted, repetitive behaviors. KP's parents will benefit from psychoeducation on high-functioning autism to better understand his condition, as effective parenting can improve the development of children with ASD (Crowell et al., 2019). He will benefit from attending group social skills training with a play-based component to improve his social-emotional skills and social competence (Chester et al., 2019). Occupational therapy may be beneficial to help him develop coping strategies for managing sensory issues and improving his ability to handle transitions smoothly (Schoen et al., 2019). Teachers and parents are encouraged to implement behavioral strategies, such as giving advanced notice for transitions to the next activity, using visual schedules, and providing sensory breaks, to address and manage these behaviors (Mitteer et al., 2023).

KP demonstrates different modes of language acquisition and pragmatics compared to neurotypical children. He likely picks up language from gadgets and prefers learning English and Russian rather than his mother tongue to have better communication with his parents. Future studies could explore the speech development of children with ASD who engage in non-

social language learning, where language is acquired not through exposure to the mother tongue or oral language but via structure detection and manipulation (Mottron et al., 2021). The longitudinal studies could also investigate the role of linguistic and social development of different mechanisms of word learning on vocabulary acquisition in children with ASD.

The challenge faced in managing this case includes the need to be culturally sensitive and adapt the intervention to align with the family's cultural practice. For example, the parent interview and subsequently psychoeducation session was conducted in a culturally sensitive manner and in the primary language of each parent.

This case study contributes insights into identifying children with high-functioning ASD who exhibit atypical speech development. Understanding the challenges faced by such individuals, particularly those from diverse cultural backgrounds, can aid in tailoring effective interventions to promote their overall well-being and development.

REFERENCES

American Psychiatric Association (APA) (2022). *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision (DSM-5-TR™).* Arlington, VA.

Chester, M., Richdale, A.L. & McGillivray, J. (2019). Group-Based Social Skills Training with Play for Children on the Autism Spectrum. *J Autism Dev Disord*, 49, 2231–2242. https://doi.org/10.1007/s10803-019-03892-7

Crowell, J. A., Keluskar, J., & Gorecki, A. (2019). Parenting behavior and the development of children with autism spectrum disorder. *Comprehensive Psychiatry*, *90*, 21-29. https://doi.org/10.1016/j.comppsych.2018.11.007

Donaldson, M. L. (2021). *Multidisciplinary Perspectives on Teacher Evaluation: Understanding the Research and Theory*. Routledge.

Gilliam, J. E. (2014). *Gilliam Autism Rating Scale– Third Edition (GARS-3).* Pro-Ed.

Goldstein, S., & Naglieri, J. A. (2009). *Autism spectrum rating scales (ASRS)*. Multi-Health System.

Goodman, R. (1997). The strengths and difficulties questionnaire: a research note. *Journal of Child Psychology and Psychiatry, 38* (5), 581–586

Jayanath, S., & Ozonoff, S. (2020). First Parental Concerns and Age at Diagnosis of Autism Spectrum Disorder: A Retrospective Review from Malaysia. *The Malaysian Journal Of Medical Sciences, 27*(5), 78–89. https://doi.org/10.21315/mjms2020.27.5.8

Mitteer, D. R., Peterson, K. M., Crowley-Zalaket, J. G., & Greer, B. D. (2023). Transition-Related Problem Behavior. In *Handbook of Applied Behavior Analysis for Children with Autism: Clinical Guide to Assessment and Treatment* (pp. 255-275). Springer International Publishing.

Mottron, L., Ostrolenk, A., & Gagnon, D. (2021). In Prototypical Autism, the Genetic Ability to Learn Language Is Triggered by Structured Information, Not Only by Exposure to Oral Language. *Genes*, *12*(8), 1112. MDPI AG. Retrieved from http://dx.doi.org/10.3390/genes12081112
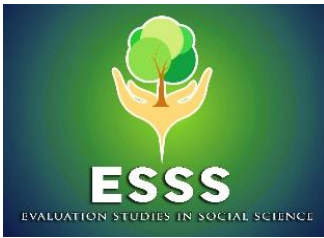
Parmeggiani, A., Corinaldesi, A., & Posar, A. (2019). Early features of autism spectrum disorder: a cross-sectional study. *Italian Journal of Pediatrics*, *45*, 1-8. https://doi.org/10.1186/s13052-019-0733-8

Salari, N., Rasoulpoor, S., Rasoulpoor, S., Shohaimi, S., Jafarpour, S., Abdoli, N., ... & Mohammadi, M. (2022). The global prevalence of autism spectrum disorder: a comprehensive systematic review and meta-analysis. *Italian Journal of Pediatrics*, *48*(1), 1-16. https://doi.org/10.1186/s13052-022-01310-w

Schoen, S. A., Lane, S. J., Mailloux, Z., May-Benson, T., Parham, L. D., Smith Roley, S., & Schaaf, R. C. (2019). A systematic review of ayres sensory integration intervention for children with autism. *Autism Research*, *12*(1), 6-19. https://doi.org/10.1002/aur.2046

Schopler, E., Wellman, G.J. & Love, S.R. (2010). *Childhood Autism Rating Scale. (2nd ed.)* Western Psychological Services.

van 't Hof, M., Tisseur, C., van Berckelear-Onnes, I., van Nieuwenhuyzen, A., Daniels, A. M., Deen, M., Hoek, H. W., & Ester, W. A. (2021). Age at autism spectrum disorder diagnosis: A systematic review and meta-analysis from 2012 to 2019. *Autism*, *25*(4), 862–873. https://doi.org/10.1177/1362361320971107

Vogindroukas, I., Stankova, M., Chelas, E. N., & Proedrou, A. (2022). Language and Speech Characteristics in Autism. *Neuropsychiatric disease and treatment, 18* (1), 2367–2377. https://doi.org/10.2147/NDT.S331987

Wechsler, D., & Naglieri, J. A. (2006). *Wechsler nonverbal scale of ability (WNV)*. San Antonio, TX: Harcourt Assessment.