

Establishing Norm Reference for SLI Children in Mainland China

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The Asian Conference on Education 2023
Official Conference Proceedings

Abstract

This study aims to establish a norm reference of children's language development level. As many psychological-medical assessing tools are available for testing children's language development or impairment, treatments from medical institutions and professions are often involved. However, a testing instrument designed for early detection of SLI children for in-service teachers is needed. The Assessment of Language Impairments in School-age Children Scale developed by the National Taiwan Normal University was used in this study to establish a norm reference for children of school age in northern Jiangsu Province in Mainland China. Modification and justifications of items were made for better cultural-historical adaption of being used. All 102 participants were from an elementary school in Xuzhou City of Jiangsu Province. The results of each school age were calculated and compared with a norm reference established in Taiwan. The results showed that although the means don't have much difference, the cut-off scores of $M-1.5\text{ SD}$ showed significant differences. The results also showed 6 out of 102 were diagnosed against the new norm reference, while five were diagnosed against NTNU's norm reference in Taiwan. However, the one who wasn't diagnosed against NTNU's norm reference in Taiwan scored 60, which was very close to the cut-off of 59.77. Thus, the diagnostic odds ratio in our study was between 4.42%-5.30%, which falls into the generally understood range of 5%-7%. Further study is needed for more participants from different regions for all school ages.

Keywords: Specific Language Impairment (SLI), Reference Norm, Diagnostic

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Introduction

Specific Language Impairment (SLI) is a developmental disorder that affects language acquisition in children, leading to difficulties in linguistic skills without concurrent cognitive, sensory, or neurological impairments. While SLI has been extensively studied in Western countries, its recognition and understanding in China present a unique set of challenges and opportunities. This comprehensive exploration delves into the historical context, cultural influences, current state of recognition, diagnosis, and intervention strategies related to Specific Language Impairment in China.

According to statistics, the prevalence rate of language barriers among school-age children in Taiwan was 3.3% in the 2008 school year (Lin, B., 2016, p.2). According to The University of Kansas, the prevalence of children with specific language impairment is 7-10% (Rice, n/d, p.2). The prediction of the prevalence rate (morbidity rate) of SLI in the current academic circle is generally based on the Tomblin et al. (1997) study of 7.4%, 8% for males, and 6% for females. The prevalence rate of a class in the third grade of participating children in this study is 7.5-12.5%, which is higher than Taiwan and international references. However, it may also be due to the small number of test samples.

Specific Language Impairment (SLI) is a developmental disorder, also called the Developmental Language Disorder (DLD), in children with lower language capacity than average children in the same age group without vivid physical or mental illness. Characteristics of children with SLI are generally described by Dorothy V.M. Bishop (2006) and Leonard (2014) in terms of the criteria of SLI:

1. The children's language expression and comprehension on standardized tests are considerably less effective
2. Nonverbal IQ and nonlinguistic traits are within the normal range
3. Hearing loss, physical abnormalities of the speech apparatus or environmental deprivation cannot be accounted for as causes of language difficulties
4. Brain damage is not the cause of language difficulties

Children with SLI may experience the following, as depicted by Rice (2020) and Dorothy V.M. Bishop (2006) suggested that:

1. Have no hearing loss or other developmental delays
2. Affecting 7-10% of children
3. Usually persistent into adulthood
4. Not likely to be identified (clinically) for services to help with their language impairment, so:
5. A high risk for reading impairments
6. Lower-than-expected academic achievement
7. Difficulties in establishing peer relationships
8. A heightened risk for peer victimization as a student (bully, marginalized)
9. Increased risk of being identified as having an Attention Deficit Disorder (ADHD), Auditory Processing Disorder (APD), and Autism.

In addition, language disorders or impairments in children are under-recognized compared to other neurodevelopmental conditions such as attention deficit hyperactivity disorder (ADHD), autism spectrum disorder, and developmental dyslexia. (D. V. Bishop & Leonard, 2014, p. 2) In other words, SLI is more exclusive compared with Developmental Language Disorder, or DLD. DLD diagnoses include children with lower IQs and co-occurring conditions (e.g.,

ADHD, DCD, dyslexia), whereas DLD diagnoses include children with lower IQs and co-occurring conditions (Dorothy V. M. Bishop, 2017).

Understanding the historical context of language development and disorders in China is crucial to comprehend the trajectory of SLI recognition. Historically, Chinese culture has held a distinctive approach to education, emphasizing rote memorization and academic achievement. The focus on linguistic precision, as seen in the Chinese writing system, has shaped societal expectations regarding language skills.

In the past, developmental disorders, including language impairments, were often stigmatized or overlooked due to cultural norms and limited awareness. However, as China undergoes rapid societal changes and embraces a more inclusive approach to education, there is a growing acknowledgment of the importance of recognizing and addressing developmental challenges in children.

Chinese culture places a significant emphasis on collectivism, where conformity and harmony are highly valued. This cultural context may influence how language difficulties are perceived within the family, school, and community. The desire to maintain social harmony might contribute to underreporting or masking of language impairments, as families may be hesitant to acknowledge and seek help for issues that could be perceived as deviating from societal norms.

In recent years, there has been a noticeable shift in the recognition of developmental disorders, including SLI, in China. The government and educational institutions have made efforts to raise awareness and provide resources for identifying and supporting children with special needs. However, the understanding of SLI specifically may still be in the early stages.

Challenges in recognition include the lack of standardized screening tools in Mandarin Chinese and dialects, making it challenging to identify language impairments accurately. Additionally, the variability in language development across regions and diverse linguistic backgrounds within China adds complexity to the recognition process.

Research studies exploring the prevalence of SLI in Chinese-speaking populations are emerging, contributing to a better understanding of the scope of the issue. Collaborations between researchers, educators, and healthcare professionals are essential to develop culturally sensitive assessment methods and diagnostic criteria for SLI in the Chinese context.

Diagnosing SLI involves a comprehensive assessment of a child's language skills, considering both expressive and receptive language abilities. In China, the lack of standardized assessment tools tailored to the linguistic and cultural nuances poses a challenge. Adapting existing tools or developing new assessments that align with the linguistic characteristics of Mandarin Chinese and regional dialects is imperative for accurate diagnosis.

Moreover, the assessment process needs to consider cultural factors that may impact language use and comprehension. For instance, communication styles within Chinese families, hierarchical dynamics, and expectations regarding language proficiency may influence a child's performance during assessments.

Collaboration between speech-language pathologists, psychologists, educators, and parents is essential for a holistic evaluation. Integrating input from multiple sources can provide a more comprehensive understanding of the child's linguistic abilities and potential areas of difficulty.

In order to identify children with possible SLI, we need a norm reference to address the developmental level of children in different school ages of children. As the norm reference established in one cultural-historical area, it's more meaningful to evaluate those children and design appropriate help accordingly.

Method

The Specific Language Impairment Checklist evaluates certain aspects of language impairment that standardized language tests adequately assess. A preliminary regional norm was established based on a study of 102 school-aged children. Based on the Development of the Specific Language Impairment Checklist, the scale developed by Qi (2008) and published by the Center of Special Education, National Taiwan Normal University in Taiwan, we have preliminarily evaluated 42 school-aged children, consulted linguistic scholars and primary school Chinese language teachers to modify questions and pictures of this scale to adapt to the linguistic cultural-historical context of the Xuzhou region of Jiangsu Province in Mainland China. These check list items were then divided into eight scales, which include language-related learning difficulties, semantic difficulties, syntactic difficulties, narrative difficulties, word-finding problems, auditory perception/memory, auditory comprehension, and language-related communication problems. The scores obtained from the checklist were also able to distinguish between children who may have language learning problems and those who do not.

Results

First, the overall Mean and M-1.5 SD are reported against original data from Qi (2008) and published by NTNU. As shown in Table 1.

Table 1: Overall comparison between Mean to NTNU/Qi (2008)

	age	NTNU		XuZhou	
		Mean	M-1.5SD	Mean	M-1.5SD
Llanguage Comprehension	6	27.90	20.21	27.20	20.13
	7	30.69	23.84	31.53	28.09
	8	32.97	27.30	32.14	27.94
	9	33.54	27.39	35.05	29.67
	10	35.11	30.46	35.67	31.87
	11	36.09	31.77	35.45	33.01
	12	36.64	32.73	39.00	39.00
Oral Expression	6	35.20	23.30	34.60	27.76
	7	38.13	26.97	35.76	24.14
	8	40.38	30.61	39.64	33.37
	9	42.93	32.22	40.19	30.02
	10	45.21	34.73	44.14	38.29
	11	46.50	37.52	43.09	37.24
	12	47.50	37.83	46.50	41.20
Language Development	6	63.11	45.62	61.80	48.75
	7	68.82	52.76	67.29	53.63
	8	73.35	59.77	71.79	62.69
	9	76.47	61.65	74.05	55.00
	10	80.33	67.11	79.81	71.48
	11	82.59	71.14	78.55	71.59
	12	84.15	71.74	85.50	80.20

The Mean and M-1.5 SD Xuzhou data values aligned with NTNU's norm reference except for the 12-year-old age group due to sufficient samples participating.

Conclusion

A regional, localized norm reference is needed in the Xuzhou area as we are trying to help school-aged children in their early stages of SLI as soon as possible. Therefore, from an educator's perspective, we can distinguish between children with possible language learning difficulties in resource classrooms and children in regular classrooms. This study established a preliminary norm reference using data from 102 local children. Finally, the scores obtained from the checklist were compared against the original data from NTNU/Qi in Taiwan. The results are close, and further data collection is needed for a broader base of children in the Xuzhou area.

Acknowledgements

This study is sponsored by the Social Science Foundation of Jiangsu Province. Project title: "Research on norm construction, inclusive education, and CT intervention of children with Specific Language Impairment (SLI) in northern Jiangsu Province" (21JYB005) and the "Postgraduate Research & Practice Discount Innovation Program of Jiangsu Province" (SJCx22 1199).

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