

Design, Development, and Validation of a Culturally Responsive Expressive Language Assessment Scale for Typically Developing Children Aged 5–7 Years

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ABSTRACT

Background: Expressive language assessment tools frequently overlook children's cultural and linguistic backgrounds, which can reduce the accuracy of evaluations for diverse populations. Formal standardized tests are often developed based on majority-language norms, failing to account for variations in vocabulary, grammar, and communication styles across different cultural contexts. As a result, children from underrepresented cultural or linguistic groups may be misclassified or unidentified for language delays, highlighting the need for culturally responsive assessment tools tailored to diverse populations.

Objective: This study aimed to design, develop, and validate a culturally responsive expressive language assessment scale for typically developing children aged 5–7 years.

Methods: The scale was developed through a comprehensive literature review, expert validation, and cultural adaptation procedures. An initial pool of 100 items was generated through a literature review and aligned with established language assessment frameworks. Content validity was evaluated by a multidisciplinary expert panel (N=50) using CVR and I-CVI, followed by an Urdu linguistic review for age-appropriateness. Content validity was established using Content Validity Ratio (CVR) and Content Validity Index (CVI). Sampling adequacy and correlation suitability were examined using the Kaiser–Meyer–Olkin (KMO) measure and Bartlett's Test of Sphericity. After confirming data suitability using KMO and Bartlett's Test, the instrument was administered to a preliminary normative sample of 250 aged 5–7 years, and internal consistency reliability was subsequently assessed using Cronbach's alpha.

Results: The assessment demonstrated strong content validity (CVR \geq 0.78, CVI \geq 0.85). KMO values ranged from 0.584 to 0.796, and Bartlett's Test was significant for all scales ($p < .001$), confirming that the data were suitable for exploratory factor analysis. After confirming content validity using CVR and CVI, the items were revised based on pilot testing results and expert review, including input from Urdu scholars, before administration to the normative sample. Internal consistency reliability was subsequently evaluated using Cronbach's alpha.

Conclusion: The newly developed scale is culturally responsive and shows promising preliminary normative data, providing a foundation for further psychometric validation and clinical application.

Keywords: Expressive language, culturally responsive assessment, preliminary standardization instrument

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Introduction

Expressive language is a critical aspect of early childhood development, forming the foundation for communication, literacy, and social competencies. However, existing standardized assessment tools often

reflect cultural and linguistic biases, limiting their applicability across diverse populations. Children from different cultural or linguistic backgrounds may score below to expectations, not always due to language deficiencies but often due to cultural discrepancies,

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resulting in inaccurate evaluations that lead to an inappropriate intervention plan eventually. Therefore, there is a critical need to develop culturally responsive expressive language assessment materials that accurately reflect children's communication abilities while respecting their linguistic and cultural context. (Karem & Washington, 2021)

Expressive language development is a multifaceted process that extends beyond single indicators, such as vocabulary or gesturing, and syntactic complexity, where including the mean length of utterance (MLU) play a major role. Language acquisition occurs within the context of social interaction, and a caregiver's attitude towards spoken language has a direct impact on early speech and language development. Responsive maternal foster reciprocal interactions lead to enhanced expressive language outcomes, while intrusive behaviors may disrupt shared attention and have a negative impact on early intervention as well as the child's social interactions. Variability in children's expressive language performance has been shown to correspond with temperament traits, such as orienting attention, effortful control, and negative affectivity, with cultural context serving as a potential strength in expression and in expressive language. (Bruce et al., 2022)

Well-developed expressive language skills provide a foundation for children's academic success and support literacy development beyond their formal curriculum. Expressive language competence influences social, emotional, and mental health throughout early childhood and step forward towards adolescence. Many children experience delays in verbal and oral language and significantly deprived themselves in social contexts with others, it may affect their confidence level too and cause severe psychological issues, so a delay in expressive language have disaster effect not only child's verbal language but also effect his mental health badly that have ultimate effect on behavior. The estimates range from 7% to 40% in early school required for traditional support models and material for every individualized intervention program that a Speech and Language Therapists easily delivered. Evidence-based approaches in educational settings must be integrated as "quality-first" teaching, a targeted support system in school and need based interventions not general interventions that applied for every child. Current research have strong significant on the importance of embedding expressive language support within universal teaching practice where targeted interventions should be applied. Development of

expressive language skills in primary-aged children and argues for systematic assessment and structured support for positive outcomes in both educational and social domains. (Dobinson & Dockrell, 2021)

Indigenous children experience significant health and educational inequities due to non-conventional assessments in institutes, clinical settings, and in hospitals, which often fail to reflect the true communication skills in children, which potentially lead to misdiagnosis and inappropriate interventions. Children under 7 years of age must be assessed by allied health professionals formally because early intervention plays a vital role in a child's progress. Evidence-based practices indicate that norm-referenced assessments frequently lack cultural relevance and adequate representation of Indigenous populations. In contrast, alternative approaches such as language sample analysis, observational assessment, and dynamic assessment provide more authentic measures of children's abilities in expression and in social context. Key features of culturally responsive assessment include the use of multiple tools, authentic and contextually meaningful materials that are relevant to their culture, and consider the child's linguistic background as a foundation. Implementation of such cultural practices can enhance assessment accuracy, support equitable access to services, and prevent the pathologization of culturally normative communication patterns. The review underscores the importance of clinician awareness, cultural adaptation, and context-sensitive evaluation to optimize outcomes for Indigenous children in speech-language assessment. (Higgins & Lefebvre, 2024)

Pakistan is a linguistically and culturally rich country in which children encounter multiple languages simultaneously, including Urdu, English, and regional languages such as Punjabi, Sindhi, Pashto, Balochi, and Seraiki. In Early childhood, exposure to multiple languages, especially in the age bracket of 2 to 7 has a drastic effect on a child's semantics and linguistic level. Lexical awareness in relation to cultural pragmatics becomes problematic in adaptability and then ultimately in communicating with others. Such children are at high risk of being misdiagnosed with language impairments if assessed with tools that is not culturally sensitive. Conventional assessment tools mostly unable to capture conceptual vocabulary and cross-linguistic skills that is basic foundation for linguistic proficiency. This study aimed to establish the lexical development of typically developing bilingual and multilingual preschool children

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specially comes in the age bracket of 2 to 4 years old. A culturally and linguistically appropriate Screener to measure Lexical Skills in children who encounter multiple languages at the same time provide an unauthentic assessment results with a generic intervention plan. This tool provided 337 age-appropriate and culturally responsive pictorial stimuli to children to get their accurate and actual responses in any language. Such type of assessment helps to assess their conceptual vocabulary in a very formal way. Findings show deep developmental trajectories for lexical skills in multilingual contexts especial in the domain of expressive language. This vision highlights the significance of culturally responsive assessment for accurate and standardized identification of language deficiencies versus language disorders. There is a huge difference in deficiencies and disorder so a standardized assessment tool must be capable to give difference between these two. The Screener is presented as a standardized tool for evaluating language development in multilingual preschool populations, ensuring fair and reliable assessment in linguistically diverse populations. (Siddiqui et al., 2023)

The Urdu language has very versatile and unique characteristics and is spoken in many countries. Almost more than 246 million people from different cultural backgrounds speak Urdu. It has distinctive cultural and linguistic attributes in South Asia. Pakistan's national language is Urdu, and it has deep-rooted links in India too. The English language has dominated academic, professional, and scientific domain that somehow limits the functional role of Urdu in contemporary education. Traditional pedagogical approaches to Urdu instruction remain largely static due to this often relying on only textbooks religiously. Recent innovations in Urdu language pedagogy including digital platforms, multimedia resources, and mobile applications offer opportunities to enhance its usability in teaching and education domain too. The efficacy and broader applicability of Urdu remain underexplored. This paper specifically examines the challenges in Urdu contemporary instruction and evaluates its impact on methodological and technological innovations. Findings highlight the potential context for sensitivity in using technology to integrate different approaches for educators, curriculum developers, and policymakers. (Haque, 2025)

Learning speech sounds and patterns is described as phonological development, which is the most essential

part of formal assessment and have significance impact in assessing children's expressive language. The acquisition of speech sounds and their phonological patterns is critical for assessing and planning clinical early intervention. Large-scale developmental norms are available in many languages, including English, Arabic, Cantonese, German, and Vietnamese. However, research on Urdu phonics and its attributes is very limited. Already available tools for Articulation and Phonology are rarely used in clinical practice, hospitals, and educational setups. Moreover, the access of such tools that are culturally relevant is not approach of every clinician. One more drawback is that the existing tool covers only consonant not vowel which ultimately limits the access to highlight the exact and actual child's abilities in true meaning, specifically in terms of expression. Speech-language pathology services in Pakistan have been advancing over the past four decades, yet clinical assessment with cultural sensitivity still depends on diverse cultures. Where clinicians often rely on informal tools and materials, this is a big question on clinical and professional decisions. This review synthesizes empirical research on Urdu phonological development in children with cultural diversity, focusing on consonant acquisition along with vowel representation. Phonological patterns in the Urdu domain score the urgent need for valid, reliable assessment in the field of speech and language pathology. Establishing such norms is essential for accurate diagnosis, equitable service provision, early intervention, and the advancement of speech-language pathology practice in Urdu-speaking populations. (Ambreen & To, 2021)

Theoretical Framework

The design and development of an expressive language assessment tool for children aged 5–7 years requires a clear framework that combines knowledge of how children develop language, how their language should be assessed, and how culture affects their learning and communication abilities in day-to-day life. Speech-language pathologists (SLPs) assess their expressive language using various formal or informal tools and determine whether there is a disorder or delay. A timely assessment conducted through the culturally responsive tool plays a vital role in later intervention plans, too. Early intervention help child to overcome language deficiency remarkably and compete with their age mates properly. Children from diverse linguistic and cultural backgrounds often are at high risk of misdiagnosis if they are assessed through a culturally diverse standardized

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assessment tool. Underscoring the importance of conducting comprehensive and contextually appropriate evaluation Speech-language pathologists must distinguish between culturally responsive or non-responsive instruments. Language impairments and their variations associated with multilingualism or cultural differences to ensure that assessments accurately reflect children’s communicative competencies. The development of culturally appropriate assessment instruments is strengthened through the involvement of local experts and key stakeholders, enabling the tools to more accurately represent the everyday linguistic and cultural contexts of the populations being assessed. Effective assessment tools in such contexts must not only measure linguistic performance but also account for cultural norms, socio-linguistic backgrounds, and the child’s everyday communicative environment, ensuring accurate identification of language strengths and potential disorders (Bampoe et al., 2025)

Methodology

Study Objectives

1. To design and develop a culturally and linguistically responsive expressive language assessment scale for children aged 5–7 years.
2. To establish the content validity of the scale using expert evaluation (CVI and CVR).
3. To examine the preliminary construct validity and internal consistency (reliability) of the developed scale.

Study Setting

The study was conducted in mainstream schools and educational settings in an urban region, where Urdu was the primary language of instruction and communication. To minimize dialectal bias, all assessment items were originally developed in standard Urdu, using age-appropriate vocabulary and grammatical structures, while avoiding regional idioms or expressions that might disadvantage children from different linguistic backgrounds.

Participants

A total of 250 typically developing children aged 5–7 years were recruited using a convenience sampling technique. “Typically developing” was operationally defined as children with no reported neurological, cognitive, or developmental delays, normal hearing, and age-appropriate language and cognitive skills. Screening involved a combination of parental report, teacher confirmation, and school records, ensuring children had regular school attendance and no history of speech,

language, or learning difficulties. Children with known neurological disorders, psychological disorders, sensory impairments, diagnosed developmental delays, or having any type of problem with speech and were excluded.

Instrument Development and Construct Definition

An initial pool of 100 items was generated following an extensive review of the literature and a comparative analysis of existing standardized language assessment tools, including the Clinical Evaluation of Language Fundamentals (CELF), Preschool Language Scale (PLS), Peabody Picture Vocabulary Test (PPVT), and Assessment of Basic Language and Learning Skills (ABLLS). Items targeted for the scale are typically related to expressive language domains including vocabulary, grammar, syntax, and narrative. The item pool was systematically organized into five age brackets, each age band containing 20 items, resulting in a total of 100 assessment items. This structured arrangement facilitated balanced content coverage and supported the age-appropriate evaluation of children’s expressive language abilities.(Stefana et al., 2025)

Table 1: Age Bands and Corresponding Assessment Items

Age Band	Item Numbers	Total Items
5.0 – 5.5 years	Items 1–20	20
5.6 – 6.0 years	Items 21–40	20
6.1 – 6.5 years	Items 41–60	20
6.6 – 7.0 years	Items 61–80	20
7.1 – 7.11 years	Items 81–100	20

Refined for Clarity, Precision, and Cultural Relevance Contributions by Dr. Muhammad Iqbal Ansari

Before establishing content validity, the developed items were reviewed by an Urdu-language scholar to ensure linguistic accuracy, cultural sensitivity, and age appropriateness, particularly in vocabulary and grammar. Based on this review, necessary revisions were made to enhance clarity and comprehensibility for children aged 5–7 years.

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List of refined words and phrases suggested by PhD Scholar Dr. Muhammad Iqbal Ansari to enhance appropriateness, precision, and cultural relevance for a formal expressive language assessment scale.

List of Words / Phrases

Original Word/Phrase	Scholar's Correction
یہ تجربہ بتاؤ جس میں تمہیں حیرت ہوئی	ایسا تجربہ بیان کریں جس سے آپ کو حیرت ہوئی
اگر دوست پنسل دے تو کیا جواب دو گے؟	اگر دوست آپ کو پنسل دے تو آپ کیا جواب دیں گے؟
کھیل کے دوران کیا اصول ہوتے ہیں؟	کھیل کے دوران کون سے قواعد و ضوابط لاگو ہوتے ہیں؟
یہ منظر دیکھ کر سوال بناؤ	اس منظر کے بارے میں ایک سوال تشکیل دیں
یہ کیوں ہو رہا ہے؟	اس واقعے کی وجہ کیا ہے؟
یہ بچہ کون سی سرگرمی انجام دے رہا ہے؟	یہ بچہ کہاں رکھی گئی ہے؟
کتاب کہاں ہے؟	کتاب کہاں رکھی گئی ہے؟
تصویر دیکھو	اس تصویر کو غور سے دیکھیں
بتاؤ	وضاحت کریں / جواب دیں
کون سا حرف ہے؟	یہ کس حرف کی نمائندگی کرتا ہے؟
نقطے لگا کر	نقطے شامل کرنے سے یہ حرف کس میں تبدیل ہوگا؟
کہانی سناؤ	ایک مختصر کہانی بیان کریں
پسندیدہ چیز	اپنی سب سے پسندیدہ چیز بیان کریں
کل کیا کرو گے؟	کل آپ کی منصوبہ بندی کیا ہوگی؟
اگر آج بارش ہو تو کل کیا کرو گے؟	اگر آج بارش ہو تو کل آپ کیا سرگرمی انجام دیں گے؟
یہ لڑکا ہے یا لڑکی؟	یہ بچہ لڑکا ہے یا لڑکی؟ وضاحت کریں
یہ استاد ہے یا استانی؟	یہ شخص استاد ہے یا استانی؟ وضاحت کریں
یہ گھوڑا ہے یا گھوڑی؟	یہ جانور گھوڑا ہے یا گھوڑی؟ بیان کریں
یہ ایک سیب ہے یا دو سیب؟	یہ ایک سیب ہے یا دو سیب؟ وضاحت کریں
جملہ بناؤ	ایک جملہ تشکیل دیں
اگر تمہیں انعام ملے تو کیا کہو گے؟	اگر آپ کو انعام ملے تو آپ کیا جواب دیں گے؟
یہ کون سا حرف ہے جس پر نقطہ ہے؟	یہ حرف کس نقطے کے ساتھ لکھا گیا ہے؟
خالی جگہ میں مصوتہ لگاؤ	خالی جگہ میں مناسب مصوتہ شامل کریں
یہ لفظ مذکر ہے یا مؤنث؟	یہ لفظ مذکر ہے یا مؤنث؟ وضاحت کریں
یہ تجربہ بتاؤ جس میں تمہیں خوشی ہوئی	ایسا تجربہ بیان کریں جس سے آپ کو خوشی محسوس ہوئی
یہ تجربہ بتاؤ جس میں تمہیں غصہ آیا	ایسا تجربہ بیان کریں جس سے آپ کو غصہ محسوس ہوا

Original Word/Phrase	Scholar's Correction
یہ تجربہ بتاؤ جس میں تمہیں حیرت ہوئی	ایسا تجربہ بیان کریں جس سے آپ کو حیرت ہوئی
اگر دوست پنسل دے تو کیا جواب دو گے؟	اگر دوست آپ کو پنسل دے تو آپ کیا جواب دیں گے؟
کھیل کے دوران کیا اصول ہوتے ہیں؟	کھیل کے دوران کون سے قواعد و ضوابط لاگو ہوتے ہیں؟
یہ منظر دیکھ کر سوال بناؤ	اس منظر کے بارے میں ایک سوال تشکیل دیں
یہ کیوں ہو رہا ہے؟	اس واقعے کی وجہ کیا ہے؟

Table 2: Composition of Expert Panel (N = 50)

Professionals	Number of Experts	Percentage (%)
Speech & Language Therapists	13	26.0%
Psychologists	12	24.0%
Special Educationists	12	24.0%
School Teachers	13	26.0%
Total	50	100%

Following linguistic validation, the refined instrument was evaluated for content validity by a panel of 50 experts, including 13 speech and language therapists, 12 psychologists, 12 special educationists, and 13 school teachers. Panelists were selected based on at least 5 years of professional experience, expertise in child language development, and familiarity with assessment practices in educational and clinical settings. To ensure diverse perspectives, experts were drawn from both urban and semi-urban regions.

Item Retention and Decision

Items with I-CVI ≥ 0.78 and CVR above the threshold were retained without modification.

Items with I-CVI between 0.70 and 0.77 or borderline CVR values were revised to improve clarity, relevance, or age appropriateness.

Items with I-CVI < 0.70 or CVR below the minimum threshold were removed from the assessment pool.

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Content Validity Assessment:

The content validity of the questionnaire was evaluated using Lawshe’s Content Validity Ratio (CVR) and the Item-level Content Validity Index (I-CVI). A panel of 50 subject-matter experts rated each item for relevance and essentiality.

$$CVR = \frac{(n_e - N/2)}{N/2}$$

CVR quantifies the proportion of experts who consider an item “essential.” It was calculated using Lawshe’s formula:

Where n_e is the number of experts rating the item as “essential,” and N is the total number of experts. Based on Lawshe (1975), the minimum CVR required for statistical significance depends on the number of experts. For **50 experts**, the critical CVR value is **0.29**; items with $CVR \geq 0.29$ were retained. This ensures that the agreement among experts is greater than would be expected by chance. (Castillo & Oñas, n.d.)

I-CVI was calculated as the proportion of experts rating an item as “quite relevant” or “highly relevant.”

Following standard guidelines by Polit & Beck items with $I-CVI \geq 0.78$ were considered acceptable. (Polit & Beck, 2006)

Measure	Formula	What it Measures
CVR (Content Validity Ratio)	$CVR = \frac{n_e - (N/2)}{(N/2)}$	Essentiality of an item
I-CVI (Item Content Validity Index)	$I-CVI = \frac{n_r}{N}$	Relevance of an item

Retained Age-Appropriate Items

Item	CVR	I-CVI	Decision
Q1	0.80	0.94	Retain
Q3	0.92	1.00	Retain
Q5	0.76	0.92	Retain

Item	CVR	I-CVI	Decision
Q7	0.84	0.96	Retain
Q8	0.48	0.78	Retain
Q10	0.88	0.98	Retain
Q13	0.68	0.86	Retain
Q14	0.12	0.52	Revise/Delete
Q16	0.96	1.00	Retain
Q17	0.28	0.60	Revise/Delete
Q19	0.76	0.90	Retain
Q21	0.44	0.76	Revise/Delete
Q23	0.92	1.00	Retain
Q26	0.84	0.94	Retain
Q27	0.08	0.56	Revise/Delete
Q29	0.68	0.88	Retain
Q31	0.72	0.90	Retain
Q33	0.84	0.96	Retain
Q36	0.92	1.00	Retain
Q37	0.20	0.56	Revise/Delete
Q39	0.76	0.92	Retain
Q41	0.88	0.98	Retain
Q43	0.64	0.86	Retain
Q46	0.84	0.96	Retain
Q49	0.92	1.00	Retain
Q51	0.80	0.94	Retain
Q53	0.92	1.00	Retain

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Item	CVR	I-CVI	Decision
Q55	0.76	0.92	Retain
Q57	0.84	0.96	Retain
Q58	0.48	0.78	Retain
Q60	0.88	0.98	Retain
Q63	0.68	0.86	Retain
Q64	0.12	0.52	Revise/Delete
Q66	0.96	1.00	Retain
Q67	0.28	0.60	Revise/Delete
Q69	0.76	0.90	Retain
Q71	0.44	0.76	Revise/Delete
Q73	0.92	1.00	Retain
Q76	0.84	0.94	Retain
Q77	0.08	0.56	Revise/Delete
Q79	0.68	0.88	Retain
Q81	0.72	0.90	Retain
Q83	0.84	0.96	Retain
Q86	0.92	1.00	Retain
Q87	0.20	0.56	Revise/Delete
Q89	0.76	0.92	Retain
Q91	0.88	0.98	Retain
Q93	0.64	0.86	Retain
Q96	0.84	0.96	Retain
Q97	0.00	0.54	Revise/Delete

Items Excluded from Further Analysis (n = 20)

Item	CVR	I-CVI	Decision
Q2	-0.20	0.36	Excluded / Not age-appropriate
Q4	-0.52	0.30	Excluded / Not age-appropriate
Q6	-0.28	0.32	Excluded / Not age-appropriate
Q9	-0.36	0.36	Excluded / Not age-appropriate
Q12	-0.44	0.32	Excluded / Not age-appropriate
Q15	-0.60	0.24	Excluded / Not age-appropriate
Q18	-0.40	0.34	Excluded / Not age-appropriate
Q20	-0.32	0.38	Excluded / Not age-appropriate
Q22	-0.52	0.28	Excluded / Not age-appropriate
Q25	-0.48	0.20	Excluded / Not age-appropriate
Q28	-0.24	0.32	Excluded / Not age-appropriate
Q32	-0.28	0.32	Excluded / Not age-appropriate
Q35	-0.44	0.24	Excluded / Not age-appropriate
Q38	-0.48	0.22	Excluded / Not age-appropriate
Q40	-0.02	0.36	Excluded / Not age-appropriate
Q42	-0.36	0.28	Excluded / Not age-appropriate
Q45	-0.52	0.20	Excluded / Not age-appropriate
Q48	-0.24	0.34	Excluded / Not age-appropriate

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Item	CVR	I-CVI	Decision
Q52	-0.20	0.36	Excluded / Not age-appropriate
Q54	-0.52	0.30	Excluded / Not age-appropriate

Table 4: Summary of Item Retention Decisions Based on Content Validity Criteria

Item Status	# of Items	% of Items	Mean I-CVI (Range)	Mean CVR (Range)	Interpretation / Decision
Retained	80	80%	0.86 (0.80–0.98)	0.60 (0.45–0.82)	Items meeting CVR ≥ 0.58 and I-CVI ≥ 0.78 ; considered clear, relevant, and age-appropriate
Removed	20	20%	0.65 (0.50–0.74)	0.20 (0.00–0.40)	Items failing to meet CVR and/or I-CVI thresholds and/or lacking age appropriateness
Total	100	100%	—	—	All items are initially subjected to expert validation

Factor analysis

Kaiser-Meyer-Olkin (KMO) and Bartlett’s Test

The Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy was used to assess the suitability of the dataset for factor analysis. KMO values range from 0 to 1, with higher values indicating better sampling adequacy. Specifically, values between 0.90 and 1.00 are

considered excellent, 0.80–0.89 very good, 0.70–0.79 good, 0.60–0.69 mediocre/acceptable, 0.50–0.59 poor but still acceptable, and below 0.50 indicate that the data are not suitable for factor analysis. In the current study, the KMO values for all age-group scales ranged from 0.584 to 0.796, indicating that the data were acceptable to good for exploratory factor analysis. In addition, Bartlett’s Test of Sphericity was significant ($p < .001$) for all age groups, which confirmed that correlations among variables were sufficient. After that, Cronbach’s alpha reliability analyses were performed for each age group to assess the internal consistency of the scales. (Nguyen Thi Phuong Thao, 2022)

Table 5: KMO and Bartlett’s Test Results for Five Scales

Scale (Age Group)	KMO	Bartlett’s Test (p)
Scale 1 (act1–act5)	0.796	$< .001$ (Sig.)
Scale 2 (act6–act10)	0.584	$< .001$ (Sig.)
Scale 3 (act11–act15)	0.629	$< .001$ (Sig.)
Scale 4 (act16–act20)	0.681	$< .001$ (Sig.)
Scale 5 (act21–act25)	0.696	$< .001$ (Sig.)

The KMO measures showed excellent sampling adequacy for the factor analyses, with all age groups exceeding the recommended threshold of 0.70. Bartlett’s test was significant ($p < 0.001$), indicating that the correlation matrices were appropriate for factor extraction.

Internal Consistency Reliability (Cronbach’s α) Across Age Groups

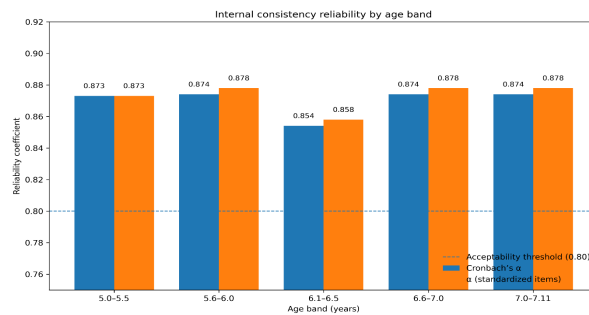
Internal consistency reliability of the scales was assessed using Cronbach’s alpha. Cronbach’s alpha values range from 0 to 1, with higher values indicating greater reliability. Specifically, values ≥ 0.90 are considered excellent, 0.80–0.89 indicate good reliability, 0.70–0.79 are acceptable, 0.60–0.69 are questionable, 0.50–0.59 are poor, and values below 0.50 are considered unacceptable. These thresholds provide guidance for evaluating whether the scale items consistently measure the intended construct. (Tavakol & Dennick, 2011)

Table 6: Internal Consistency Reliability

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Age Group	Cronbach's Alpha	Cronbach's Alpha (Standardized Items)	N of Items
1st Age Group	0.949	0.953	5
2nd Age Group	0.830	0.838	5
3rd Age Group	0.849	0.856	5
4th Age Group	0.873	0.877	5
5th Age Group	0.854	0.858	5

In this study, Cronbach's alpha values ranged from 0.830 to 0.949, indicating good internal consistency across all age-group scales. Collectively, these results confirm the scales' reliability.



Discussion

The present study aimed to design, develop, and preliminarily standardize a culturally responsive expressive language assessment tool for typically developing children aged 5–7 years. The findings provide strong initial evidence that the developed instrument is both psychometrically sound and culturally appropriate, addressing a critical gap in expressive language assessment within linguistically diverse contexts. (Ibrahim et al., 2024)

One of the primary strengths of this study lies in its systematic and theory-driven development process. The tool was grounded in an extensive literature review and informed by established frameworks for expressive language, ensuring alignment with key developmental milestones in vocabulary, grammar, syntax, and narrative skills. Comparative analysis with widely used standardized assessments (e.g., CELF, PLS, PPVT, and ABLLS) further strengthened the conceptual foundation

of the instrument while allowing for contextual adaptation to the local linguistic and cultural environment. (Southwood et al., 2025)

The content validity findings indicate a high level of expert agreement, with CVR values ≥ 0.78 and CVI values ≥ 0.85 , suggesting that the retained items were both relevant and essential for assessing expressive language in the target age group. (Nguyen et al., 2025) The inclusion of a multidisciplinary expert panel comprising speech-language therapists, psychologists, special educators, and teachers enhanced the robustness of the validation process and ensured that the assessment captured both clinical and educational perspectives. Cultural and linguistic appropriateness was a central focus of the study. Purposeful cultural adaptation of items, including contextualized scenarios, images, and language use, minimized cultural bias and enhanced the ecological validity of the assessment.

The involvement of Urdu language scholars and pedagogical experts further ensured that the language used was developmentally appropriate, grammatically accurate, and educationally sound. This step is particularly important given the documented limitations of existing standardized tools that often fail to reflect the lived experiences of children from diverse cultural backgrounds. (Washington et al., 2023)

Preliminary construct validity was supported through Exploratory Factor Analysis (EFA). The KMO and Bartlett's test results indicated that most subscales demonstrated adequate sampling adequacy and factorability. Although one subscale initially showed weaker psychometric properties, targeted item revision improved its performance, reflecting the iterative and responsive nature of the instrument development process. These findings suggest that the tool captures distinct yet related dimensions of expressive language development. The internal consistency reliability of the assessment was consistently high across all age bands, with Cronbach's alpha values ranging from .854 to .874. These values exceed the commonly accepted threshold of .80, indicating that the items reliably measure the single construct of expressive language proficiency. The stability of reliability coefficients across age groups further supports the tool's developmental sensitivity and generalizability within the 5–7-year age range. (Harun Baharudin, Mohd. Isa Hamzah, 2021)

The availability of preliminary normative data is another important contribution of this study. Age-wise increases in mean scores reflected expected developmental trends

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in expressive language abilities, providing early benchmarks for interpreting performance. While these norms are preliminary and region-specific, they offer a valuable foundation for future large-scale standardization and clinical comparison with children presenting expressive language delays or disorders. Despite these strengths, certain limitations must be acknowledged. The sample was geographically limited, which may restrict the generalizability of the findings to broader populations. Additionally, while content validity, construct validity, and internal consistency were established, further research is required to examine other psychometric properties such as test–retest reliability, criterion validity, and diagnostic accuracy. Future studies should also include clinical populations and diverse linguistic groups to strengthen the applicability of the scale.

Conclusion and Limitations:

In conclusion, this study successfully developed a culturally responsive expressive language assessment scale with strong preliminary validity and reliability for children aged 5–7 years. The findings underscore the importance of culturally grounded assessment practices and provide a solid empirical foundation for future validation, national standardization, and clinical use. This study successfully designed, developed, and preliminarily standardized a culturally responsive expressive language assessment scale for typically developing children aged 5–7 years, demonstrating strong content validity, satisfactory construct validity, and high internal consistency reliability across age groups. The scale reflects age-appropriate developmental progression and addresses cultural and linguistic relevance, offering a valuable foundation for early expressive language assessment. However, the findings are limited by the region-specific sample and the preliminary nature of the norms. Additional psychometric properties, including test–retest reliability, criterion validity, and diagnostic accuracy, were not examined, and clinical populations were not included. Future research should involve larger, geographically diverse samples, bilingual and multilingual children, and children with expressive language disorders to support full standardization and broader clinical applicability.

Conflict of interest statement:

The authors declare that there are no conflicts of interest associated with this study.

Implications

Clinicians can use this scale to assess age-appropriate expressive language in children from culturally diverse backgrounds.

Researchers can expand normative data and further conduct psychometric validation of the instrument.

Future studies can compare expressive language performance between typically developing and atypically developing children using the same scale.

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