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Cultural Adaptation of the "Language-Based Reading Disabilities Checklist" for Persian-Speaking Students: A Psychometric Study

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ABSTRACT

Introduction: Regarding the prevalence of learning disabilities (LD) and its consequences, the availability of a valid and reliable screening tool will help provide early diagnosis and intervention for at-risk students. A significant number of students with a LD have a history of language problems; therefore, it is rational to recognize them through a checklist entitled "language-based reading disabilities checklist." This study aims to examine the translation, cross-cultural adaptation, and assessment of the psychometric features of the checklist for Persian-speaking students.

Materials and Methods: The research team administered forward and backward translations, cognitive briefing and validity and reliability evaluations. Content validity and face validity were calculated based on the content validity ratio (CVR) (critical value ≥0.42), critical validity index (CVI) (critical value ≥0.79) and item impact score (IIS) (critical value ≥1.5). The Kuder-Richardson-21 was administered to calculate the internal consistency.

Results: In translation, two words ('wanders' and 'rhymes') must be equated. Teachers assessed the checklist as easy to understand and clear. They required approximately five minutes to complete the checklist for each student. The panelists removed two items with a CVR≤0.42 and one item based on the CVI and IIS. The internal consistency of the checklist was 0.94, and the item's intraclass correlation coefficient (ICC) ranged from 0.543 to 0.885.

Conclusion: The Persian version of the language-based reading disabilities checklist is a valid and reliable tool for Persian-speaking students in Iran. It should be checked whether this tool also applies to bilingual Iranian students (Turkish, Kurdish, Lor, Arabic and Baloochi).

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Introduction

Learning disability (LD) is the largest category among the 13 disabilities that require special education [1]. LDs affect between 2.6% (kindergarten) and 13.2% (5th grade) of students in the U.S. [2]. Approximately 18.1% of students with LD drop out of school [1]. In Iran, 4.58% of primary school students are labeled LD [3]. Considering LD through the World Health Organization's (WHO) model of the international classification of functioning showed many aspects besides the person's function and structure [4-8], including family members and quality of life, would be affected by LD [6, 9-13]. However, early diagnosis and intervention before children enter school can resolve these issues [14].

To achieve early diagnosis and intervention goals, the age of diagnosis should be approximately five years. Nonetheless, Arrhenius et al. in Finland (1996-2002) found that the age of diagnosis for 3 162 individuals with specific learning disabilities (LD) was around 7.3–9.2 years [15]. This delay in diagnosis may result from the diagnostic criteria [16] or limitations of screening tools [14, 17]. Professionals involved in assessing and intervening in LDs can only be suspicious of the existence in LDs before schools start. Additionally, several screening tools before school years is low, and these limited numbers of screening tools have serious restrictions (such as including assessment of preliminary reading skills and developmentally earlier language functions) [14].

Based on recent divisions, LDs can be categorized into two categories: Language-based LD (LLD) and specific LD (SLD). SLDs, such as dyslexia, have been over-studied, but a literature review on LLD did not yield well-grounded research outcomes. Paul et al. cited a figure from the U.S. Department of Education that approximately 80% of LDs are LLD and explained the typical problems observed in students with LLD [18]. Students with LLD struggle with phonological processing, advanced morpho-syntactical skills, obvious deficits in pragmatic skills and some problems in cognitive skills, such as attention [18, 19]. Children with LLD experience language problems before entering school [20-31]. Many studies have shown that language skills and learning are connected [20, 24-27, 32]. Such evidence provided a proper basis to develop screening tools for LDs regarding students' language skills and the introduction of LLDs [23, 24, 33].

Paul and Norbury introduced a few checklists, such as language-based reading disabilities [18], clinical discourse analysis worksheet [34], the pragmatic language skills inventory [35] and children's communication checklist-2 [36], that can be used to screen LLDS. However, some have been developed according to pragmatic skills, which made them culture-based and difficult to adapt to another culture, such as Persian [33], since culture may influence the predictive ability of early literacy skills for future literacy outcomes [37]. Comparison among these four measures showed that a language-based reading disability checklist is a teacher-based short checklist, includes language areas other than pragmatics, and can be administered at the end of kindergarten or the beginning of the first grade before the child experiences all those failures at schools and more than 85 percentages of items must have been checked (ticked) to identify a child at risk for LD [18]. This checklist became a revised protocol to screen children for the possibility of LDS in the USA and has not been adapted for any other language or culture (this may be a consequence of differences in education systems or visual language structures) [38, 39].

In Iran, students are screened for their vision, hearing, non-verbal cognitive skills and motion before entering schools. If the child fails the primary screening, they will be a candidate for secondary screening by an expert committee. Failure in secondary screening can lead to several outcomes. The child may be placed in an education-rehabilitation program in special schools for one year and be re-evaluated with the hope of entering regular schools the following year. Here, speech and language therapists (SLTs) will be members of the rehabilitation team that works with the child. Some families prefer not to register their child for this program. Instead, they register for services from a polyclinic and receive different types of rehabilitation from a multidisciplinary team (including SLT services). While students receive SLT services in either way, there is no specific speech and language screening tool in primary or secondary screenings. Such a paucity will make the provision of early diagnosis and intervention for children with LDs difficult and restricted unless a proper tool can be introduced. To help SLTs in Iran start screening children at risk for LLDs, this study was the beginning of a long journey aimed at:

Translate the revised version of the "language-based reading disabilities checklist" from English to Persian.

Evaluate some of the psychometric features of the Persian version of the language-based reading disability checklist, including face and content validity, reliability, item impact score (IIS) and future directions.

Materials and Methods

The target population was differed at each step. For content validity, the sampling method was purposeful sampling. Four bilingual persons were used for forward and backward translations and 82 first-grade teachers out of 51 elementary first-grade teachers were selected to run face validity and cognitive debriefing. For the final testing, 20 primary schools out of 81 were selected by cluster random selection. The inclusion criteria included low, middle and high socioeconomic-status schools, including equal numbers of private, semi-private, and government-based schools. Thirty-one teachers in grade 1 filled out the Persian version of the revised checklist. The exclusion criteria included teachers who did not wish to be part of the study and those who did not complete the form for all their students. All teachers with a related university degree should have at least four years of experience teaching grade 1. Twenty of 25 SLTs responded to our invitation letter and completed the validity appraisal forms. The invited SLTs should have been professors, clinicians and master's/PhD students in speech and language therapy with at least four years of clinical experience in schools. Studies with incomplete appraisal forms were excluded.

Tools

The English version of the "language-based screening of reading disorders" has the child's name (for anonymity, the child's code in teachers' diaries was used), date of birth, and date of completion of the checklist at the top. The next section includes 30 items categorized under eight subcategories: Speech sound awareness (5 items), written language awareness (2 items), letter name knowledge (3 items), word retrieval (4 items), speech production/perception (4 items), comprehension (4 items), expressive language (6 items) and literacy motivation (2 items).

An appraisal sheet to examine the necessity and relevance was designed according to our previous studies with similar designs. In terms of relevance, the experts scored each item from 1 to 4 (1='not relevant'; 2='somewhat relevant'; 3='relevant'; 4='completely relevant'), and for the necessity part from 1 to 3 (1='not essential'; 2='useful, but not essential'; 3='necessary') [40].

Procedures

Permission was obtained from the publisher (Appendix 1) and Beaton et al.'s guidelines were used to adapt the checklist [41] in the following stages.

Stage I: Forward translation: Two translators, one familiar with the subject and the other unfamiliar, who were fluent in English and whose mother tongue was Persian, provided two independent translations of the checklist from English to Persian.

Stage II: Synthesis of translations: The research team compared the outcomes of the previous stage and checked for ambiguous wording or discrepancies in the translations. They synthesized both translations, compared them with the original checklist, and reached a consensus.

Stage III: Backward translation: The final Persian scale from stage II was translated by two independent translators (English as their mother tongue), blind to the project. The checklist was translated back into English. The team compared the original English version and the translated versions to identify and resolve any inconsistencies or conceptual errors.

Stage IV: The team consolidated all versions of the checklist and provided a pre-final version for Stage V. By considering semantic, idiomatic, experiential and conceptual equivalencies, the team decided to maintain equality between the original English version and the Persian version in all issues.

Stage V: Pre-testing and cognitive debriefing were conducted with 11 teachers. Each participant was asked to fill out the pre-final version of the checklist, and the examiner asked them to answer the following questions verbally:

"What does each item ask? Do they need to read each question many times and repeat and translate it into their language to understand the questionnaire? What comes to mind when they hear a certain phrase?"

They were asked questions that were not understandable to them. If the participants suggested other equivalent words for a term, they were recorded for inclusion in the next steps. Participants answered questions verbally, and the researcher took notes. She compared teachers' verbal answers with the options they chose in the checklist. Through this stage, the researcher would identify any potential issues in checklist items that may lead to misperceptions or vagueness from teachers [42]. The interviews were conducted at schools chosen by the teachers.

Stage VI: Face and content validity: Figure 1 shows the steps used to evaluate face and content validity. Content validity ratio (CVR) according to Lawshe [43] (Equation 1):

1. $$CVR = \frac{n_E - \frac{N}{2}}{\frac{N}{2}}$$

('n_E': number of experts indicating an item as "essential"; 'N' is the total number of experts)

The CVR is a direct linear transformation from the percentage saying "essential," its utility comes from its features. When fewer than 50% of the panelists say "essential," the CVR is negative; when 50% of the panelists say "essential" and half do not, the CVR is zero; when all experts score an item as "essential," the CVR is 1.00; and when more than half of the experts, not all of them, say "essential," the CVR is a score between zero and 0.99. According to Lawshe's critical values, when the number of panelists is 20, a CVR=0.42 is required to keep the item [43].

To calculate the critical validity index (CVI), the number of SLTs who chose options 3 and 4 was divided by the total number of specialists. If the resulting value was <0.7, the item was eliminated; if it was between 0.7 and 0.79, it was revised; and if it was >0.79, it was considered appropriate [44, 45]. There are two types of CVI indices: I-CVI (item level) and S-CVI (scale level). S-CVI examines content validity at the level of a multi-item scale. S-CVI is considered "the proportion of total items judged content valid" [46] or "the proportion of items on an instrument that achieved a rating of 3 or 4 by the content experts" [47].

A supplemental form of validity was used to determine the face validity of the checklist. The researcher asked another 40 Grade 1 teachers to judge whether the checklist was valid for them. The difficulty level of items desired suitability, the relationship between items and the main objective of an instrument, ambiguity and misinterpretations of items and or complexity of the meaning of words were the subjects discussed with participants [34]. To calculate IIS as a measure of face validity and as a way of factor analysis [48], these 40 teachers assessed the importance of each item as 'very important' (5), 'important' (4), 'relatively important' (3), 'slightly important' (2), and 'unimportant' (1). Then, percentages of teachers who scored 4 or 5 on item importance (frequency) were calculated, and the mean importance score of the item was obtained. Frequency was multiplied by importance to obtain IIS (Equation 2):

2. $IIS = Frequency \times Importance$

If the IIS of an item was at or above 1.5, it was retained; otherwise, it was excluded [49].

Stage VII: Final test and reliability: The final checklist was completed by 31 teachers for each of their students (number of students 800). One-third of the studied samples (all 31 teachers for at least 258 students) answered the checklist again two weeks after the first assessment. SPSS software, version 24 was used for random selection.

Statistical analysis

All data were entered into SPSS software, version 24. The Shapiro-Wilk measured normal distribution. The reliability and stability of each item were evaluated using the intra-class correlation coefficient (ICC) with a two-way random model and definite agreement. The checklist had a dichotomous scoring system; therefore, Kuder-Richardson 21 was used to calculate the internal consistency reliability of the checklist in STATA. A $P<0.05$ was considered significant for all tests.

Results

In combining translations, semantic complexities, inconsistency between English and Farsi terms, and lack of coordination between translations were resolved based on the consensus of the research team. Only two words, "rhymes" and "wanders," were discussed and proper Persian equivalents were used. To do so, while these two words were only one, their equivalents came out as noun phrases (rhymes) and compound verbs (wanders). Two English translations were converted into one translation by team. The team compared the obtained translation with the original version and the content of the resulting translation was approved. In cognitive de-briefing, 11 first-grade teachers needed an average of five minutes to fill out a checklist for each random student. Examining teachers' responses showed that the items were clear and understandable. Seventy percent did not need to reread or repeat items in their language. They had similar responses to oral questions compared with their written answers. They suggested changing the questionnaire administration time (at the end of the school year), which was against early diagnosis.

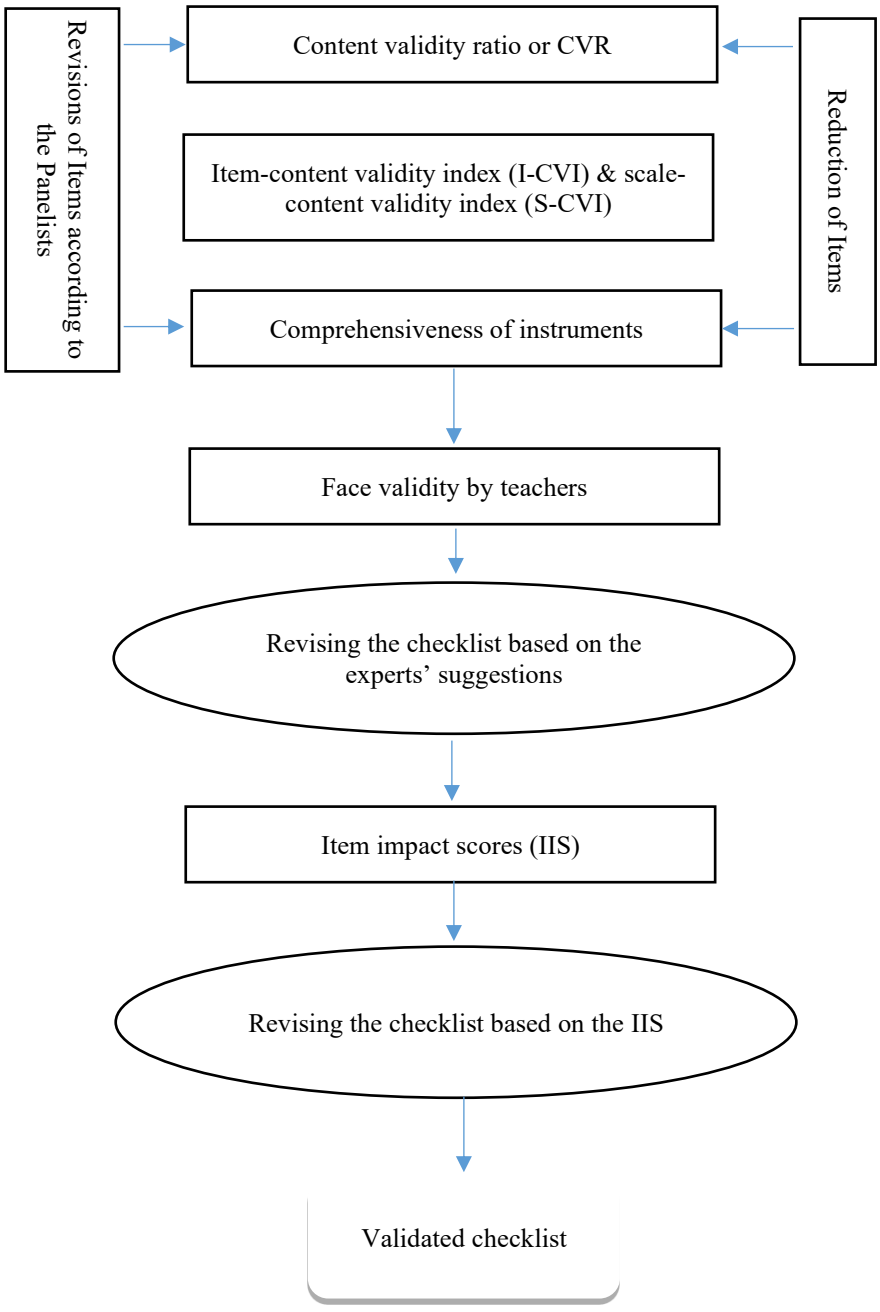

Figure 1. Face and content validity process

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Of the 25 SLTs, 20 filled out the item evaluation form separately and emailed it to the team. Table 1 presents CVR, I-CVI and S-CVI/average variance extracted (AVE).

Based on the CVR value, item 4 from the first subcategory (speech sound awareness), item 1 from the third subcategory (letter name knowledge), items 3 and 4 from the fourth subcategory (word retrieval), item 4 from the fifth subcategory (speech production/perception), and item 3 from the seventh subcategory (expressive language) of the checklist were deleted. However, the team considered the CVI, teachers' opinion, SLTs, and diagnostic value of items above to identify LLD and voted to remove only item 4 from the first subcategory, "has problems clapping hands or tapping feet in rhythm with songs and/or rhythms" and one from third subcategory "cannot recite the alphabet." The decision to exclude other items depended on the results of the revision of items, recalculation of CVR, and calculation of IIS.

Table 1. Content validity scores for reading disability checklist

	Subcategories Items	CVR*	I-CVI**
Speech sound awareness	Does not understand and enjoy rhymes	0.86	0.93
	Does not easily recognize that words may begin with the same sound	1	1
	Has difficulty counting the syllables in spoken words	1	1
	Has problems clapping hands or tapping feet in rhythm with songs and/or rhythms	0.33	0.93
	Demonstrates problems learning sound-letter correspondences	0.73	1
Written language awareness	Does not orient book properly during book-looking	0.46	0.93
	Cannot identify words and letters in a picture book	0.75	0.75
Letter name knowledge	Cannot recite the alphabet	0.06	0.73
	Cannot identify printed letters when named by the teacher (“where is the A?”)	0.73	0.93
	Cannot name letters when asked	0.46	0.86
Word retrieval	Has difficulty retrieving a specific word (e.g. calls a sheep a “goat” or says you know, a woolly animal”)	0.73	1
	Shows poor memory for classmates’ names	0.46	1
	Speech is hesitant, filled with pauses or vocalizations (e.g. “um,” “you know”)	0.38	0.63
	Frequently uses words lacking specificity (e.g. “stuff,” “thing,” “ what you call it”)	0.5	0.75
Speech production/ perception	Has problems saying common words with difficult sound patterns (e.g. refrigerator, plate, & bicycle)	0.88	0.75
	Mishears and subsequently mispronounces words or names	0.46	0.93
	Combines sound patterns of similar words (e.g. saying “’escavator” for escalator)	0.88	0.88
	Shows frequent slips of the tongue (e.g. saying “brue blush” for blue brush)	0.88	0.88
Comprehension	Only responds to part of a multiple-element request or instruction	0.73	0.86
	Requests multiple repetitions of instructions/directions with little improvement in comprehension	1	1
	Fails to understand age-appropriate stories	0.86	0.93
	Lacks understanding of spatial terms, such as left-right, front-back	0.60	0.93
Expressive language	Talks in short sentences	0.46	0.80
	Makes errors in grammar (e.g. “he goed to the store,” “me want that”)	0.86	0.93
Expressive language	Lacks variety in vocabulary (e.g. uses “good” to mean happy, kind, polite)	0.33	1
	Has difficulty giving directions or explanations (e.g. may show multiple revisions or dead ends)	0.73	0.93
	Relates stories or events in a disorganized or incomplete manner	0.73	0.93
	May have much to say, but provides little specific detail	0.73	0.93
Literacy motivation	Does not enjoy classroom story-time; wanders, fails to pay attention to stories read by the teacher	0.73	0.93
	Shows little or no engagement in classroom literacy activities, such as writing, book-looking	0.73	0.86
	S-CVI/AVE	Not applicable	0.897

Abbreviations: CVR: Content validity ratio; CVI: Critical validity index; AVE: Average variance extracted.

Revised items: CVI

In the revision, three items had I-CVI>0.79 and were not eliminated. However, four items, including "cannot identify words and letters in a picture book," "speech is hesitant, filled with pauses or vocalizations (e.g. "um," "you know")," "frequently uses words lacking specificity (e.g. "stuff," "thing," " what you call it")" and "has problems saying common words with difficult sound patterns (e.g. refrigerator, plate and bicycle)" had I-CVI between 0.70 and 0.79. The team considered the IIS process to eliminate the mentioned items.

The team eliminated only one item that scored less than 1.5: "Speech is hesitant, filled with pauses or vocalizations (e.g. "um," "you know")" (IIS=1.403). They saved the other three since their IISs were above the critical score. Thus, the number of items was reduced to 27.

After applying teachers' and experts' opinions in the face validity section, it was determined that the checklist was completely in plain language, understandable, and without ambiguous and complicated words. A committee consisting of the main researcher, supervisors, advisors, a biostatistician, teachers, and an expert test maker discussed all the contradictions and ambiguities by suggesting examples to clarify the items and a semi-final version was prepared for the next phase. All SLTs evaluated the checklist as "comprehensive."

At-risk students

In the revised version of the checklist cited in Paul et al. [18], an instruction said, "a child receiving a substantial number of checks should be considered at-risk for language disability." One and a half percent of students (12 out of 800) received checks for more than 75% of the indicators. If the number of checks in 50% of the indicators can be considered a code of risk, 5.3% of students (30 out of 800) were at risk of being diagnosed with LLD. However, further evaluation is required to determine the presence of LLD.

Other psychometric features

The internal correlation of the checklist was 0.94 in Kuder-Richardson21. The test-retest was applied to calculate the reliability and ICC, 95% confidence interval, and the P value was presented separately (Appendix 1) for each item.

Discussion

The present study provided a valid and reliable Persian version of the "language-based reading disability checklist." Catts' checklist was not introduced to professionals with psychometric features, but this study can be recognized as a pioneer in assessing the psychometric values of the Persian-version of the checklist.

The study revealed that each English term can be used straightforwardly in other cultures, including Persian. Two words were identified during forward translation. Reconciliation was a proper way to resolve any discrepancies during forward translation, especially when it was conducted by a panel that included a person from the target language, translators and a project manager [50]. To avoid setting strict translations that were not appropriate for real-world situations, a cognitive interview was conducted. This step increased the chance of finding vague items or eliminated the possibility of teachers misunderstanding the final test. Along with some suggestions to improve the understandability of the checklist, teachers presented two crucial perspectives regarding administration time and grades. The team decided to apply teachers' suggestions about grades only to first grade in primary students but not kindergarten; however, changing the administration time to the end of the educational year contradicted the concept of early screening and intervention. Therefore, we decided to consider changes in the administration time at the end of this study.

During psychometric analysis, some items were eliminated. These eliminations do not diminish the value of these items in diagnosing LLD. The reasons for this could be the differences in educational systems (it is not usual to use clapping hands or tapping feet in rhythm with songs and or rhythms in most of Iran's schools), the curriculum (formal education of Persian letters will be started from the second month of the first year in primary school, and students can sing alphabet song when they finish their first grade) and probably culture (recognition of "you know" as an interjection to fill pauses in English culture but not Persian).

The present study revealed that the internal consistency of the checklist was excellent, which means that all items on the checklist measured the same thing. In health studies, the ICC is considered for evaluating the reliability of measurement scales [51]. Koo & Li considered the calculation of ICC as one of the "must-do" for any measurement [52]. This explains why ICC is a widely used reliability index in test-retest, intrarater, and interrater reliability analyses. However, the ICC may vary according

to statistical assumptions, such as normality and stable variance. Therefore, the amount of ICC may change from 0 to 1. The ICC values were interpreted as follows: Less than 0.5=poor reliability; 0.5-0.75=moderate reliability; 0.75-0.9=good reliability and values greater than 0.90=excellent reliability. The items on this checklist have moderate reliability [52].

The number of at-risk students identified by the checklist corresponded with the findings of previous studies conducted in Semnan [53]. They investigated the prevalence of specific language impairment (SLI) in preschool students (age=5). In the first screening using a developmental questionnaire, they assessed students in different developmental aspects and found 19 out of 436 students aged five (4.36%) at risk for SLI. Instead of a standardized language assessment tool, they used mean length of utterances (MLU) to indicate SLI when the child's MLU was 1.22 SD less than the mean obtained for typical students of the same age. Using this index, the number of students diagnosed with SLI decreased to 15(3.44%). If the Ministry of Education had granted a team to assess students at risk comprehensively, we would have been able to compare our findings with Mohammadi et al's. [53] in full. In a meta-analysis paper, Behrad estimated the prevalence of LD to be approximately 4.58% [3]. If we consider the diagnosis of LD in those 30 students, our findings based on the checklist fully agree with the figure calculated by Behrad. However, any firm decision can be made after an SLT conducts a comprehensive, specific assessment of the suspected students.

Conclusion

The present study supports previous studies on the necessity of cross-cultural adaptation and confirms some of the psychometric values of the Persian version of the "language-based reading disability checklist."

Limitation

The original version of the questionnaire has five items categorized as "other crucial factors" related to students' history in language, family, play, and pre-literacy skills. We were not allowed to access the students' profiles. Therefore, the interaction between these confounding factors and students' scores on the checklist could not be verified. We are still waiting for permission to run specific assessments and clinical interviews with students' parents to reach confident outcomes about children picked up as at-risk by the checklist.

Ethical Considerations

Compliance with ethical guidelines

This study was approved by the Ethics Committee of the Semnan University of Medical Sciences, Semnan, Iran (Code: IR.SEMUMS.REC.1401.083). Written consent forms were obtained from all participants by the ethical standards of the 1964 Declaration of Helsinki and its later ethical standards. Contributing to the present study did not harm the participants or have any side effects.

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Authors' contributions

Conceptualization, data collection, analysis, manuscript writing, editing, and proofreading: Mina Armin and Masoomeh Salmani; Data analysis, writing the original draft and proofreading: Mina Armin, and Fatemeh Paknazar.

Conflict of interest

The authors declared no conflicts of interest.

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Appendix 1. The intraclass correlation coefficient (ICC)

No.	Items	ICC	95% Confidence Interval		P
			Lower Bound	Upper Bound	
1	Does not understand and enjoy rhymes	0.885	0.851	0.911	<0.001
2	Does not easily recognize that words may begin with the same sound	0.746	0.671	0.804	<0.001
3	Has difficulty counting the syllables in spoken words	0.650	0.547	0.730	<0.001
4	Demonstrates problems learning sound-letter correspondences	0.642	0.536	0.723	<0.001
5	Does not orient the book properly during book-looking	0.652	0.549	0.731	<0.001
6	Cannot identify words and letters in a picture book	0.661	0.561	0.738	<0.001
7	Cannot identify printed letters when named by the teacher (“Where is the A?”)	0.702	0.615	0.770	<0.001
8	Cannot name letters when asked	0.820	0.767	0.861	<0.001
9	Has difficulty retrieving a specific word (e.g. calls a sheep a “goat” or says you know, a woolly animal”)	0.749	0.675	0.806	<0.001
10	Speech is hesitant, filled with pauses or vocalizations (e.g. “um,” “you know”)	0.672	0.575	0.746	<0.001
11	Frequently uses words lacking specificity (e.g. “stuff,” “thing,” “ what you call it”)	0.724	0.643	0.787	<0.001
12	Has problems saying common words with difficult sound patterns (e.g. animal, cinnamon, specific)	0.583	0.460	0.678	<0.001
13	Mishears and subsequently mispronounces words or names	0.602	0.485	0.693	<0.001
14	Combines sound patterns of similar words (e.g. saying “‘escavator” for escalator)	0.587	0.466	0.681	<0.001
15	Shows frequent slips of the tongue (e.g. saying “brue blush” for blue brush)	0.586	0.464	0.680	<0.001
16	Only responds to part of a multiple-element request or instruction	0.543	0.409	0.647	<0.001
17	Requests multiple repetitions of instructions/directions with little improvement in comprehension	0.687	0.595	0.758	<0.001
18	Fails to understand age-appropriate stories	0.834	0.786	0.872	<0.001
19	Lacks understanding of spatial terms, such as left-right, front-back	0.721	0.639	0.785	<0.001
20	Talks in short sentences	0.760	0.690	0.815	<0.001
21	Makes errors in grammar (e.g. “he goed to the store,” “me want that”)	0.694	0.604	0.764	<0.001
22	Lacks variety in vocabulary (e.g. uses “good” to mean happy, kind, polite)	0.839	0.792	0.876	<0.001
23	Has difficulty giving directions or explanations (e.g. may show multiple revisions or dead ends)	0.735	0.657	0.795	<0.001
24	Relates stories or events in a disorganized or incomplete manner	0.601	0.484	0.692	<0.001
25	May have much to say, but provides little specific detail	0.772	0.704	0.824	<0.001
26	Does not enjoy classroom story time; wanders, ignores stories read by the teacher	0.724	0.643	0.787	<0.001
27	Shows little or no engagement in classroom literacy activities, such as writing, book-looking	0.687	0.544	0.758	<0.001
	Total score	0.890	0.858	0.915	<0.001