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## Conference Paper

## Toward the Standardization of the Bvl\_Ru: An Instrument for Speech and Language Assessment of Russian-speaking Children

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### Abstract

The Battery for the assessment of speech and language development in children from 4 to 12 years (BVL\_4-12; [1]) was originally developed for Italian-speaking children and currently is under adaptation into several European languages including Russian. The BVL\_4-12 consists of three parts and includes tasks assessing oral production, comprehension and repetition skills in children. This article describes the process of adaptation of the BVL\_4-12 into Russia and focuses on the instructions' translation and standardization. It presents the results of the tasks instructions' clarity evaluation by an expert panel including Russian-speaking specialists constantly working with children of a target age in Russia and Italy ( $N = 7$ ) and a cohort of children from 4.06 to 10.10 including monolinguals with typical language development, children previously diagnosed with primary language impairment (PLI) and heritage Russian speakers ( $N = 84$ ). Overall, 10 task instructions were judged as absolutely clear and 5 task instructions were somewhat unclear to some of the participants. Further analysis of the age of the participants who rated the instructions as 'unclear' was performed. Some of the youngest participants, whose age did not exceed 6.10, found that the instructions for the following tasks were not clear: phonological fluency; sentence completion; grammatical judgments; idiom comprehension, and comprehension of linguistic prosody. However, the minimum inter-rater agreement among the sample was reached. The potential explanation of the results of the study is proposed in the Discussion section.

**Keywords:** language assessment, Russian, children, SLI, task instructions

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## 1. Introduction

According to the All-Russia population census [2], 137,494,893 citizens in Russia reported Russian as their mother tongue. The results of the survey done by the European commission [3] indicate that around 5% of the European population speaks Russian, including 80% of the population in Lithuania, 67% – in Latvia and 56% – in Estonia. Nineteen percent of Estonian population as well as 27% of the population

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in Latvia reported Russian as their first language. Child language research (CLR) determines a necessity of a unique tool that might be useful when assessing speech and language development not only in Russian-speaking monolingual children, but also in those for whom Russian is their non-dominant language.

'The nature of specific language impairment (SLI) in languages other than English (both similar and dissimilar) is critical to our understanding of the underlying deficits characteristic of SLI ([4] p. 22). An active translation and cultural adaptation of different tools (e.g., surveys, tests, and questionnaires) developed for the assessment in one language became a common practice since the 1980s [5]. 'The use of adapted instruments naturally enables a greater ability to generalize and also enables one to investigate differences within an increasingly diverse population' ([6] p. 424). In order to be suitable for cross-linguistic and cross-cultural studies, an instrument (both in the original language and its adapted versions) must have proven theoretical and psychometric properties. However, not all of currently available tools satisfy these requirements. The characteristics of the existing original and adapted instruments applied in speech and language assessment in Russian clinical assessment traditions are discussed in other studies [7, 8].

The Battery for the assessment of language in children aged 4 to 12 ('Batteria per la Valutazione del Linguaggio in bambini dai 4 ai 12 anni'; BVL\_4-12; [1]) was originally developed for speech and language assessment and detection of the potential language disorders in Italian-speaking children of the target age. The BVL\_4-12 is a norm-referenced standardized battery including the tasks assessing oral production, comprehension and repetition across a number of linguistic skills. The Battery has proven validity characteristics. It is currently under adaptation into several languages, including Spanish, Slovenian and German. The present article is a part of a series of papers describing the process of the BVL\_4-12 adaptation into Russian (BVL\_RU), its standardization and validation. The BVL\_RU is intended to become a standardized, norm-referenced, battery that is used as a tool for first level speech and language assessment when the identification of general areas of deficit is necessary.

The Battery can be divided into three parts: part 1 includes the following tasks: naming and articulation (for children from 4 to 6.11 years of age); naming (for children from 7 to 11.11 years of age); phonological fluency; semantic fluency; sentence completion; narrative discourse production. The second part includes the following tasks: phonological discrimination; lexical comprehension tasks for children aged from 4 to 5.11 years old and for older children (from 6.00 to 11.11 years of age); grammatical comprehension; grammatical judgment; comprehension of idiomatic expressions; comprehension of linguistic prosody; comprehension of emotive prosody. Part 3 includes the following tasks for the assessment of the repetition skills: word repetition; non-word repetition; sentence repetition (for children from 4 to 5.11 years of age); sentence repetition (for children from 6 to 11.11 years of age). Total testing time is around 90 minutes. The testing procedure includes the assessment with a series of cognitive pre-tests: Raven's progressive matrices [9] and two types of digit spans (forward and backward). The Russian version of the Battery fully replicates the structure of the original version.

The aim of this article is to briefly describe the process of the BVL\_4-12 adaptation into Russian. The focus of the current study is on the instructions' translation and standardization.

## 2. Methodology

The adaptation of the BVL\_4-12 into Russian was done in accordance with the international standards for the adaptation of tests [10-13]. According to Borsa and colleagues [6] there are several steps in the process of adaptation of a test. First – translation of the original version of the instrument into the target language; second – control of the translation by an external expert; third – the adapted version of the tool has to be evaluated by a group of experts; the next step is a back-translation. Fourth – after the revision by the translators and experts the new assessment tool must be used in pilot studies with target populations. The aim of such studies is to explore the validity and the reliability of the tool. The content of the BVL\_RU is currently undergoing the process of its validation and standardization [14, 15]. The validity and reliability of the BVL\_RU is tested in a series of small-scale studies. The contrasting groups' method was used in order to explore its construct validity. A full set of tasks from the Russian version of the Battery was applied in a study with two groups of pre-school age children speaking Russian, known to differ in their native language development trajectories. The application of the standardized methods of data collection and analysis not only permitted to confirm the presence of a mild language impairment in children from the experimental (SLI) group but also to discriminate and describe the different levels of gravity of the impairment [16]. Furthermore, the measures' consistency over time, test-retest reliability was checked. Finally, the internal consistency of 16 subscales of the BVL\_RU was explored with Pearson correlations.

As for the back-translation, typically used in the adaptation of questionnaires/surveys [17-20] it was not used during the adaptation of the BVL\_4-12 into Russian as it has its own disadvantages. According to van de Vijver and Leung: "a translation back procedure pays more attention to the semantics and less to connotations, naturalness, and comprehensibility" ([21] p. 39), which was absolutely inappropriate considering the target population of the BVL\_RU. Instead, particular attention was dedicated, on the one hand, to the maintenance of the semantic, idiomatic, experiential and conceptual equivalence of the instructions, and, on the other, to the creation of Russian stimuli fully corresponding to the characteristics of those used in the original version of the task. To strengthen the selected approach, a rigorous evaluation of the translation quality and appropriateness to a new cultural context was performed by an independent professional bilingual (Italian-Russian) and bicultural translator in order to detect potential ambiguities occurred during the translation; furthermore, a group of adult experts systematically working with children and a group of children selected from the target population [22] were also involved in this process in order to ensure that the instrument is suitable for cross-cultural and cross-linguistic studies.

Experiential and conceptual equivalence of the two versions of the instrument was reached by replacing words and proper names less relevant for children raised in a

Russian cultural context and speaking Russian. In the original version of the instructions for the phonological fluency task, the word 'sandalò' was used as an example of a word starting with the letter 'S'. In Italian 'sandalò' has two meanings: a kind of tree and a type of shoe. The literal translation resulted in two words in Russian: сандал for the tree and сандалия for the shoe. Both words are low-frequency words in Russian [23]; however, it is highly probable that all children might be familiar with a plural form of сандалия – сандалии, usually pronounced in colloquial Russian as сандали as it is one of the most popular pairs of shoes for children. Thus, it was decided to use this word in the text of the instruction. Moreover, the same instruction included two proper male names: Simone and Stefano. In the adapted version of the instructions they were replaced with frequent Russian names: Соня and Саша. These names were selected also for ethical reasons, as the first name is a typical female name and the second one is a popular short name both for men and women.

In the instructions for the semantic fluency task, three proper names of outdated cartoon heroes (i.e., Fido, Topolino, and Pluto) were substituted with the names of currently popular cartoon heroes in Russia – Пенна (from the cartoon 'Peppa Pig'), Мишка (from the cartoon 'Masha and the Bear') and Совунья (from the cartoon 'Smeshariki').

As for the instructions for the sentence completion task, the male proper name Piero was substituted with the equivalent – Петя in diminutive form. In the instructions for the phonological discrimination task one example (i.e., casa – casa) was literally translated (i.e., дом – дом, 'house – house' in English), and the other (i.e., pala – palla) was substituted with почка – дочка, as, translated literally, these two original words did not represent minimal pairs in Russian (i.e., лопата – мяч, 'shovel – ball' in English).

Finally, while translating the instructions for the linguistic prosody comprehension task, it was hypothesized that original terms used in its Italian version (i.e., domande, ordini, affermazioni – 'questions, orders, affirmations'), literally translated as вопросы, приказы, утверждения, might be too difficult for younger children to understand. Thus, a piece of additional information was included to attempt to clarify the instruction for affirmation – ...или ни то, ни другое, а просто... (in English – ...or neither of them, but simply...).

An expert panel including seven Russian-speaking experts ([24] p. 271) constantly working with children in different regions of Russia and Italy during the individual interviews evaluated the clarity of the instructions in Russian using a dichotomous scale (clear or unclear). All instructions (100%) were rated as clear. Moreover, 84 Russian-speaking participants from 4.06 to 10.10 years old recruited for piloting the BVL\_RU, were asked to establish whether the given instructions were clear or not before performing the tasks. A cohort of children included 51 monolingual subjects from 5.05 to 10.10 years old (mean – 7.63; SD – 1.61); 11 children from 5.04 to 6.10 years old (mean – 5.79; SD – .47) previously diagnosed with PLI by an independent medical commission; and 22 Russian-Italian simultaneous bilinguals from 4.06 to 7.02 years old (mean – 5.77; SD – .69).

TABLE 1: Instructions' clarity assessment by a cohort of children from target population.

Task	Clarity of the instructions, %
Naming	100
Semantic fluency	100
Phonological fluency	93.55
Sentence completion	95.16
Narrative discourse production	100
Phonological discrimination	100
Lexical comprehension	100
Grammatical comprehension	100
Grammatical judgment	98.39
Comprehension of idioms	95.16
Comprehension of linguistic prosody	91.94
Comprehension of emotive prosody	100
Repetition of words	100
Non-words repetition	100
Repetition of sentences	100

### 3. Results

The results of the instructions' clarity assessment by a cohort of children from target population ( $N = 84$ ) are summarized in Table 1.

All instructions were positively assessed by the participants. Overall, 10 task instructions were judged as absolutely clear and 5 task instructions were unclear to some of the participants. Further analysis of the age of the participants rated the instructions as 'unclear' was performed. The potential explanation of the results of the study is proposed in the Discussion section.

### 4. Discussion

The current article is a part of an international research project aiming to create an instrument suitable for speech and language assessment in Russian-speaking monolingual and bi-/multilingual children from 4 to 12 years of age. The project is driven both by the internal tendencies in Russian CLR and clinical practice, as well as by the external trends in modern society. The analysis of the existing instruments available for speech and language assessment of children speaking Russian indicates a gap in standardized norm-referenced tools allowing for comparison of the assessment results across particular language combinations. One of the possible ways to fill this gap is to contribute to the creation of a part of an existing multilingual instrument suitable for cross-linguistic and cross-cultural assessment, such as BVL\_4-12 [1]. The BVL\_4-12 was shown to be a useful tool in studies with a bilingual population [25]. It has solid psychometric characteristics, normative database including more than 1000

observations on the performance of mono- and bilingual Italian-speaking children, the Protocol and tasks' instructions are standardized and easy to follow.

The focus of the current article is on the presentation of some results of the BVL\_4-12 adaptation into Russian. In particular, it describes the process of tasks' instructions adaptation and piloting in a small group on Russian-speaking children and adults. A series of interviews with adult Russian-speaking specialists working with children of the target age confirmed that the tasks' instructions were clear to them personally and hypothesized that they might also be clear to the children speaking Russian. During the next stage of the instructions' standardization, Russian-speaking monolingual children with typical language development (TLD), Italian-Russian bilingual subjects and those with impaired language development estimated the clarity of the instructions given prior to each task from the BVL\_RU. Overall, 100% of children rated the instructions for 10 tasks as clear. The instructions for the rest of the tasks were somewhat unclear for children at first glance. Namely, 6.45% of the children, from 5.04 to 6.10 years old, were confused about the instructions for the phonological fluency task. The instructions for the sentence completion task were found unclear by 4.84% of children, from 5.04 to 5.09 years old. As for the instructions for the grammatical judgments task, they were found to be unclear in 1.61% of cases (by a 5.9-year-old child). Similarly, the instructions for idiom comprehension were found confusing in 4.84% of the cases, by children from 5.04 to 5.11 years old. Finally, as predicted, 8.06% of the children, from 5.04 to 6.07, were confused about the task for comprehension of linguistic prosody. Interestingly, the tasks' instructions were somewhat unclear at first glance only for the youngest participants, whose age did not exceed 6.10. Moreover, considering the difficulty of the tasks, it might be hypothesized that the tasks themselves, rather than their instructions, were too demanding for young children. However, the minimum inter-rater agreement (80% according to Sousa and Rojjanasrirat [24]) among the sample was reached.

## 5. Conclusions

The pilot studies with Russian-speaking children confirmed that the adapted version of the Battery satisfies recommendation D.2 (i.e., appropriate language used in instructions and items; [26]). In order to follow recommendation A.1 (i.e., anticipating problems), special memos on the administration of the Russian version of the Battery were included in the Manual.

One of the limitations of the present work is that the piloting of the tasks from the BVL\_RU was done in the small groups of the participants. Moreover, only children with TLD, those previously diagnosed with language impairment and Russian heritage speakers participated in the studies described in this article. The participants with other particular characteristics of language acquisition and development are subjects for future BVL\_RU's application investigations.

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