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**CULTURAL ADAPTATION OF AN ASSESSMENT INSTRUMENT
FOR SCHOOL READINESS ON ROMANIAN POPULATION**

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Abstract

Ever since 2012, when the Romanian legislation regarding the transition from kindergarten to school was changed, the need to assess children’s readiness was emphasized in various research studies and, most of all, in teachers’ practice. Several measures were developed and published, but practitioners and researchers in the field acknowledge the high resource investment needed in order to use them in their work. Therefore, the need for more accessible measures, as well as screening instruments was emphasized. The current research has as a main goal to test the validity of The Brief Early Skills and Support Index (BESSI, Hughes & White, 2015) a screening instrument for school readiness developed in the UK and adapted on Romanian population, with the authors’ permission. A heterogeneous sample of 671 children in the last year of kindergarten and first year of school was selected. The children were assessed by their parents and teachers using the BESSI. Psychometric properties and factor structure of the instrument will be presented and its advantages and limitations for the assessment of Romanian children will be discussed.

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Keywords: School readiness, transition, screening instrument, validity, psychometric properties, cultural adaptation.



1. Introduction

1.1. General framework: the transition from preschool to first grade in Romania

Academic adjustment and later success are highly dependent on the trajectory that the children have from the beginning of their schooling (Denham, Bassett, Zinsser, & Wyatt, 2014). In order to facilitate the children's transition from kindergarten to first grade and their adjustment to the latter one, a preparatory class was introduced in Romania starting with 2012-2013 school year (National Education Law, 1/2011). The preparatory class is destined for children aged 6 years, but some children, based on psychological assessment of their school readiness can start preparatory grade before this age, which was not possible under Romanian legislation before the introduction of the preparatory grade. The transition from preschool to school represents a very important step, both for children and their families and it is essential for the subsequent child adjustment to school.

The law that introduced the preparatory grade determined an important change in the children's educational path, based on arguments from developmental psychology (the developmental characteristics of children aged 5 to 6 years) as well as the European legislation that emphasizes the need to strengthen early education in order to increase the value of the educational process for children and their families. In most of the European countries, the age for the debut of schooling is 6 years, but in several countries the age is 5 years and, in some countries, even 4 years.

The change led to strong debate. On one hand, there were several arguments that favoured the introduction of the preparatory grade between kindergarten and first grade, as it eased the transition (Ardelean & Ambruș, 2017; National Ministry of Education [Ministerul Educației Naționale, MEN], 2013): (1) the child's accommodation with the school system, without the stress produced by the grades and homework, (2) the children's socialization with the colleagues and adjustment with the school location and the teacher, (3) the integrated approach of the learning contents, (4) the facilitation of the learning process by the implementation of several group learning and cooperative methods that increase the children's self-esteem, (5) the attractive, play-based learning activities, (6) the use of audio and video learning methods, (7) the flexibility of curriculum in terms of content and time, depending on the children's needs, (8) the emphasis on communication, on the written text and the flexible learning of the letters, using various methods, at the teacher's choice, (9) the use of active learning, by experiments, by trial and error, by immediate contact with objects and phenomena of the surrounding environment.

However, on the other hand, several arguments against the introduction of the preparatory grade were formulated: (1) the school readiness, as it is understood (a sum of physical, cognitive and social-emotional characteristics), is not reached by all the children at the age of 6 years, (2) the school program that starts at 8 o'clock is tiresome for the children, (3) the school curriculum is still too rich in contents, and even if these will be retaught in the first and second grades, some children cannot acquire these competences, (4) a large number of children have impaired phonological skills at this age, (5) the hand muscles are still underdeveloped at this age, (6) some children are still not independent in their daily living skills, such as: toilet training, dressing and undressing, the use of shoe laces, (7) the number of children in classes is too large in the preparatory grade (Molan, 2013; MEN, 2013).

Though some aspects regarding the transition to first grade are perfectible, the introduction of the preparatory grade within the mandatory educational path for all children is meant to represent a gain for most of the children that start school. The competences acquired during the preparatory grade are very important for the children's subsequent development. One of the main components of the training in preparatory grade is the development of the communication skills, both the verbal and written forms. Constant encouragement is given to the student to express the opinions that he/she has, to value own opinions, to express thoughts and emotions. The learning process is an active one, based on the child's involvement, conducted in a playful manner, in an attractive form, using music, movement, social interactions with peers (Ardelean & Ambruș, 2017). Therefore, the transition from preschool to school, during the preparatory grade, is meant to be less stressful and, apparently, easier for all those involved, as well as contributing to adequate school adjustment of all children, including those at risk. As such, the transition can be made from the early identification of children unlikely to thrive, to deciding the appropriate environmental adaptations that ensure universal success. However, the resources available for teachers are too scarce so far, as a small number of guides were published (eg., Ardelean, Moldovan, & Ambruș, 2017; Nica, 2015; Popa, 2014) and the need for more assessment instruments of child adjustment and for educational resources for professionals is therefore strengthened.

1.2. School readiness and adjustment in children: the need for a reliable measure

In the context of the change in Romanian legislation, the need to assess school readiness in children is even more important than before. So far, there is no agreed upon formal definition of the concept. While for parents and policy makers school readiness means the achievement of foundation skills in literacy and numeracy, for practitioners and teachers it is usually more connected to the children's behavioural and socio-emotional development (Hughes, Daly, Foley, White, & Devine, 2015), as well as their attitudes towards learning (Daniels, 2014). School readiness is a complex process, with multiple facets, encompassing various skills and developmental areas, such as: physical well-being, social and emotional competencies, language and cognition, as well as emergent literacy and numeracy skills (Şahin, Sak, & Tuncer, 2013; McWayne, Green, & Fantuzzo, 2009).

Various factors were identified as significant predictors of child adjustment and development during school. Among the *child-related factors*, gender was sometimes related to adjustment to school. Boys have the tendency to develop poorer literacy skills than girls (Guhn, Milbrath, & Hertzman, 2016) and they are more likely to receive a diagnosis of conduct disorder, which in turn is related to limited adjustment (Hughes et al., 2015; Yoleri, 2013). Birth order is another factor related to school adjustment, but results of various researches are mixed. While some authors found lower adjustment in children who have other siblings, others found no differences in first-born children and children with older siblings. First-born children may receive more support from their families, whereas children raised in numerous families can be confronted with a deficit in parental care (Berglund, Eriksson, & Westerlund, 2015).

Attachment security, an indicator of the quality of parent-child relationship and the degree of care and encouragement that the child receives from the parent, was a strong predictor of cognitive performance and academic achievement (Williford, Carter, & Pianta, 2016), as well as child adjustment after the

transition to primary school (Kiuru, Laursen, Aunola, Zhang, Lerkkanen, Tolvanen, & Nurmi, 2016; Seven, 2010).

Some of the *family-related factors* that contributed to children's adjustment were family income and support. Children from low-income families are more likely to have difficulties in school (Isaacs & Magnuson, 2011), so many countries implemented various measures to prevent the effects of poverty on school adjustment.

Other factors related to school readiness were: urban versus rural environment, with children from urban areas proving better adjustment than those from rural areas (Gan, Meng, & Xie, 2016; Bailey, 2014), bilingualism, with bilingual children rated higher on school readiness (Guhn, Milbrath, & Hertzman, 2011).

The child assessment represents an important component of the learning process, in all its forms, and the monitoring of the child's progress is an essential component for the effectiveness of the instruction in the case of each child (Ambruș, 2017). Reliable instruments should be used to determine the children's initial level, to identify children that need additional services and to make appropriate decisions regarding school placement, to inform curriculum planning and intervention (McWayne, Green, & Fantuzzo, 2009).

2. Problem Statement

A useful instrument needs to have ecological validity and because the level of burden on teachers is relatively high, an easy to use instrument would be appropriate. Such an instrument should be useful to identify children with learning difficulties and mild delays as early as possible. The measure should focus on the broader definition of school readiness, including the child's ability to meet everyday social and practical challenges, behaviour and emotional regulation, as well as the involvement of the family in the assessment process.

3. Research Questions

A reliable measure is difficult to develop and therefore we searched the literature in order to find such a measure developed on other populations. The research question was whether such a measure would be appropriate for the screening of large groups of Romanian children and would prove reliable in terms of psychometric properties.

4. Purpose of the Study

The *general goal of our study* was to adapt for Romanian language and cultural context and test the reliability of a questionnaire that proved to be a useful brief measure of the school readiness in a broader sense on the UK population.

5. Research Methods

5.1. Participants

A number of 671 children from regular kindergartens and schools, in transition from kindergarten to school, participated in our investigation. The children were enrolled in 42 classes from Suceava country

in the North-Eastern part of Romania, from both urban and rural areas. All the children were assessed by their teachers and parents as clinically healthy and with a typical development.

The median age of the sample was 6 years and the sample was balanced in terms of grade, gender and presence of an older sibling (table 01). Of the total number of children, only a small part were identified by their teachers and parents as having special needs, as seen in table 01, while other children were identified as eligible for premium students, but no special educational assistance was given to any of the two categories in the school or kindergarten. In terms of grade, gender and presence of an older sibling the distribution within our sample was balanced, a similar percentage of children were part of each category.

Table 01. Demographic characteristics of the sample

		Frequency	Percentage
Grade	Kindergarten, last year	298	44.4%
	Preparatory grade	373	55.6%
Gender	Masculine	320	47.7%
	Feminine	351	52.3%
Older sibling	Yes	361	53.8%
	No	310	46.2%
Eligibility for premium student	Yes	181	27%
	No	490	73%
Eligibility for special needs student	Yes	14	2.1%
	No	657	97.9%

5.2. Instrument and procedure

For the purposes of the current investigation, in order to assess the last year kindergarten and preparatory grade children by both parents and teachers, we used the *Brief Early Skills – Support Index* (BESSI, Hughes & White, 2015), after requesting and obtaining the authors' permission to adapt it for the Romanian population. The 30-item instrument was developed by the Centre for Family Research, University of Cambridge, with the purpose to briefly assess large numbers of preschool children aged 2.5 to 5.5 years for school readiness, but it can be used in a variety of ways for screening, evaluation and research purposes (Hughes & White, 2015). It is focused on the identification of risk factors in kindergarten and first year school children before the beginning of schooling, risk factors that can lead to school maladjustment. Following the brief assessment of children using the BESSI, those children in need for more in-depth evaluation of school readiness can be identified. The instrument assesses both child and family factors that support school readiness, can be completed by a wide variety of professionals working with young children, and contains four subscales:

- (1) Behavioral Adjustment (BA), with sample item content: “good at waiting patiently”, “has temper tantrums (R)”;
- (2) Language & Cognition (L&C), with sample item content: “speaks clearly”, “enjoys identifying letters”;
- (3) Daily Living Skills (DLS), with sample item content: “careful using scissors”, “fully toilet trained”, and

- (4) Family Support (FS), with sample item content: “receives praise”, “talks about fun at home” (Hughes et al., 2015).

Higher scores on any of the four dimensions indicate more problems on the respective domain.

The instrument development process was described in Hughes et al. (2015). Initially, an 80-item measure was developed and gradually simplified so that it serves the purpose to briefly assess large number of children. The reliability of the final version of the instrument was tested on large samples of children and it proved to be a reliable, consistent and stable measure of the risks in school readiness. In order to compare groups of children, the authors recommend that the items of the instrument and the item anchors should not be changed.

The children in our sample were older than the target population for the assessment, but given its content we found it a useful measure for the screening of Romanian children during the transition from kindergarten to preparatory grade.

The 42 teachers were given a written form of the questionnaires translated and adapted in Romanian language and they motivated the children’s parents to complete the parent form. Only mothers agreed to complete the questionnaires. In order to ensure the gathering of reliable data, an informed consent was given to the teachers, containing information about the instrument, the importance of the assessment process in order to test the children’s school readiness, as well as the emphasis on the importance of appropriate answers for each child.

6. Findings

After the process of linguistic adaptation of the instrument, we tested its factor structure and its internal consistency on our sample. Finally, some preliminary results obtained on our sample were computed. The results are discussed in the light of the usefulness of the instrument for the screening of Romanian population of children in transition from kindergarten to preparatory grade.

6.1. Translation and linguistic adaptation of the instrument content

A four-step process was followed in order to obtain a Romanian version of the instrument content. First, two accredited translators from Romanian to English independently translated the items of the questionnaire. Second, the authors compared the two versions and decided upon the most accurate phrasing of items, so that their original meaning to be preserved and the conceptual rather than literal translation to be achieved. Third, a back-translation was performed by a blinded translator and during a fourth step the discrepancies were eliminated and a final version of the Romanian translation of the instrument was reached. Our translation process was similar to the one recommended by the WHO (who.int) for the translation and adaptation of instruments.

6.1.1. Confirmatory factor analysis (CFA)

In order to test the fit of the four-factor model on our Romanian sample, a confirmatory factor analysis was performed, using AMOS software version 20. The goodness of fit and the residual error of the model are presented in table 02. Based on the values we obtained for the indices, we conclude that the data indicate an acceptable model (Sava, 2004), for both the teacher and the parent-completed scales.

Table 02. Goodness of fit indices for the four factor model of the scale

Model	RMSEA [90% confidence interval]	GFI
BESSI teachers, 4 factors	.06 [.057; .064]	.85
BESSI parents, 4 factors	.058 [.054; .061]	.86

Our CFA results were poorer than the ones that the authors obtained on their UK sample (Hughes et al., 2015), as they found better fit for their data (smaller RMSEA and better goodness of fit). Given that the age range of the children in our sample is different from that specified, further analysis of the factor structure might be necessary on other samples of Romanian children.

The internal consistency of the scales showed promising results (George & Mallery, 2003), though two of the parent completed subscales proved to be questionable in terms of their Alpha Cronbach values, with only minor improvements following the elimination of problematic items (table 03).

The following items were identified as problematic in the teacher and parent-completed scales:

- 6. *Often appears sleepy or tired (R) - FS*
- 25. *Uses one-to-one correspondence to count up to 5 objects – L&C*
- 26. *Often needs help looking after his or her belongings (R) - DLS*

The analysis of the items revealed no consistent conclusion, so we decided to maintain these items in their respective subscale, as recommended by the authors (Hughes et al., 2015), until a better solution is found after further testing of the instrument. As our results are very similar to those obtained by the authors (for details, see Hughes et al., 2015), who also found higher Cronbach's alpha for Behavioral Adjustment and Language & Cognition subscales and lower values for the internal consistency of the Daily Living Skills and Family Support subscales.

Table 03. Values of the Cronbach's Alpha quotient for the teacher and parent-completed subscales

		No. of items	Alpha	Deleted items	Alpha if item deleted
<i>Teacher completed scales</i>					
	Behavioral adjustment	12	.859		
	Language & Cognition	6	.779	25	.835
	Daily Living Skills	6	.743		
	Family Support	6	.739		
<i>Parent completed scales</i>					
	Behavioral adjustment	12	.828		
	Language & Cognition	6	.781	25	.840
	Daily Living Skills	6	.678	26	.684
	Family Support	6	.662	6	.684

Based on the results we obtained when testing the factor structure and the internal consistency of the instrument, we conclude that the BESSI proves to be a promising screening instrument for school readiness and the identification of risks during the transition to school in the Romanian population of children. Caution should be given in the interpretation of results, as certain limitations that need further investigations were identified.

6.2. Preliminary results on the four subscales

The preliminary data we obtained on our sample is shown in table 04. Our results are similar to those presented in the authors’ original article (Hughes et al., 2015), though the median age of the children in our sample is higher. As some of the issues regarding the instrument are not resolved so far and further analysis are needed in order to solve these issues, we cannot compute cut-off scores based on age that could be used as reference points for researchers or practitioners to assess the severity of risk for the children. Therefore, we limited our analysis to some descriptive statistics that can serve as reference values for future studies using the measure on the Romanian population.

Table 04. Descriptive statistics of the whole sample, on the four subscales of the instrument

	Min.	Max.	Mean	SD	Skewness		Kurtosis	
					Statistic SE		Statistic SE	
Behavioral Adjustment	15.00	44.00	28.73	3.94	-.008	.094	1.966	.188
Language and Communication	6.00	23.00	10.34	3.49	.975	.094	1.003	.188
Daily Living Skills	6.00	23.00	12.27	2.32	.870	.094	2.467	.188
Family Support	6.00	22.00	11.95	2.56	.638	.094	.760	.188

The teachers identified several risks on all the four dimensions of the school readiness, as shown in table 04. We consider the measure a useful tool that the professionals working with children in transition from kindergarten to school can use to briefly assess adjustment to school in large samples of children, without placing a large burden on their already crowded programs. By the fact that the parents are involved in the assessment, the agreement regarding the child’s readiness for school can also be computed.

7. Conclusion

In the light of recent changes in the Romanian education law, the need to define school readiness, as well as use reliable instruments to test the children and identify those at risk is more actual than ever. Following the analysis of the literature in the field, the Brief Early Skills – Support Index (BESSI, Hughes & White, 2015) was considered an appropriate instrument to screen the children in transition from kindergarten to school. After requesting and obtaining the authors’ permission to adapt the measure, an analysis of the factor structure and internal consistency were conducted and the results were optimistic, as the instrument proved to be a reliable measure on our population of children. It has the advantage that it does not place a large burden on the teachers and parents who decide to complete it, but it still offers some important information about the child on four main areas of school readiness.

The involvement of the family in the assessment process is a valuable addition of the BESSI (Hughes et al., 2015) and our results show that the reliability of the parent-completed scales is similar to the reliability of the teacher-completed scales.

Further investigations are needed in order to clarify the content of some of the remaining questionable items, as well as to overcome some of the limitations we identified, before using the instrument in schools and kindergartens. The age range of children for which the measure was developed should also be clarified, as in Romania several children in transition from kindergarten to preparatory grade are above the age of 5.5 years, the maximum age for which the measure was tested in the UK. We considered it adequate for the screening of older children, but the problem should be further discussed. The fact that the measure was initially developed for younger children might be a disadvantage for its use on the Romanian population and if other authors argue on its inappropriateness for older children, it could only be used to screen for school readiness in kindergarten children preparing to enter the preparatory grade in Romania.

Also, further investigation of school readiness in special needs and high achieving students is needed, as we found that some children were identified as belonging to one of these categories, but no special assistance was given to any of them.

Future research should also include children from other areas in Romania, in order to decide whether the instrument is a reliable measure for the whole population rather than the population from a part of the country. In future studies, the test-retest reliability should be computed, as we did not have the data to test the stability of the measure.

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