



CAN A PARENT QUESTIONNAIRE MAKE A USEFUL CONTRIBUTION TO THE ASSESSMENT OF CHILDREN'S SPEECH ?



Léonor Piron¹, Andrea A.N. MacLeod², Christelle Maillart¹



THE VALIDITY, RELIABILITY AND ACCURACY OF THE FRENCH VERSION OF THE INTELLIGIBILITY IN CONTEXT SCALE (ICS-F)

INTRODUCTION

Speech sound disorders (SSD) are associated with developmental language disorders (DLD), with difficulties in communication, social participation, literacy, and learning [1-3]. SSD and their effects may have long-lasting consequences [4]. Therefore, early identification is essential to prevent these consequences [2].

Subjective measures of functional intelligibility, such as the Intelligibility in Context Scale (ICS), have already proven to be a very useful tool for the early identification of SSD in preschoolers [6,7].

The ICS is a free parent-report scale that allows parents to rate their child's speech intelligibility based on seven conversational partners. The ICS is a widely used tool that has been translated into more than 60 languages and validated in 10 languages [6].

The ICS has been translated into French, but has not yet been validated or standardized. In contrast, the French-speaking context still requires an increase in the number of tools and measures for screening for SSD [5].

GOALS

1 To determine the psychometric properties of the French version of the ICS (ICS-F) in terms of validity & reliability, sensitivity & specificity, using objective measures of speech.

2 To develop normative data for the ICS-F

To contribute to current advances in screening for SSD in French-speaking children

METHODS

189 monolingual French Speakers + parents

35 to 67 months

$\mu = 50$; $SD = 8.9$

SSD n = 42

Typically developing (TD) n = 147

Speech assessment



French standardized picture-naming task = Exalang 3-6 [8]

- Speech performance (standard score)
- Percent consonant correct (PCC)
- Percent phones correct (PPC)
- Percent vowels correct (PVC)

Transcription and speech analyses → Phon [9]

Measures



You (Parents)

Close family

Extended family

Child's friends

Acquaintances

Child's teacher

Strangers

ICS-F

	Teachers	Strangers	Parents	Friends	Class
1. Est-ce que vous comprenez votre enfant ?	5	4	3	2	1
2. Est-ce que les membres de votre famille comprennent votre enfant ?	5	4	3	2	1
3. Est-ce que votre parent comprend votre enfant ?	5	4	3	2	1
4. Est-ce que les amis de votre enfant le comprennent ?	5	4	3	2	1
5. Est-ce que vos connaissances le comprennent ?	5	4	3	2	1
6. Est-ce que les enseignants de votre enfant le comprennent ?	5	4	3	2	1
7. Est-ce que des étrangers comprennent votre enfant ?	5	4	3	2	1
Resultat total =					
Moyenne du résultat total =					



Reliability

- Internal consistency
- Test-retest (on 30% of the sample)

Validity

- Concurrent validity

Norms development

- Based on average ICS-F scores of TD children
- 5 age groups, with 6-month intervals
- Calculation of percentiles and mean + SD

Discriminant accuracy analyses

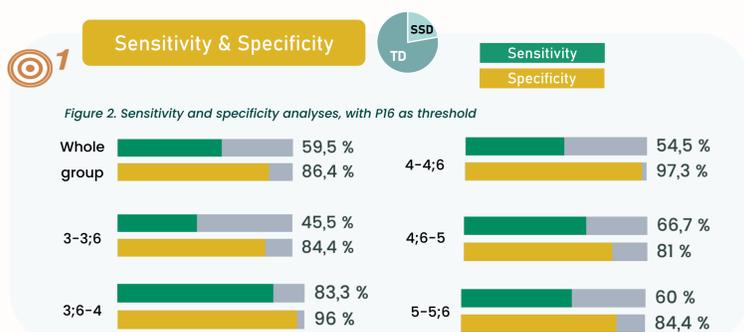
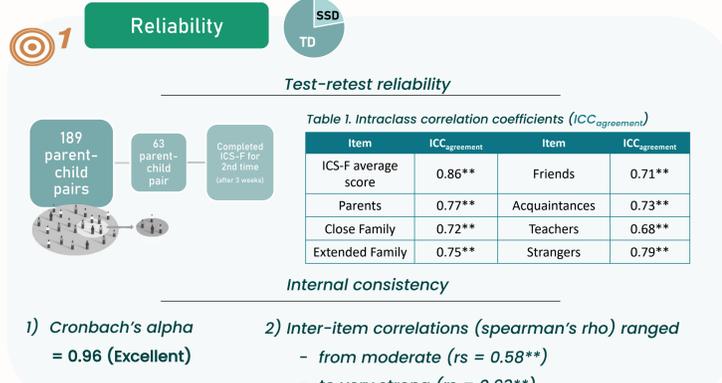
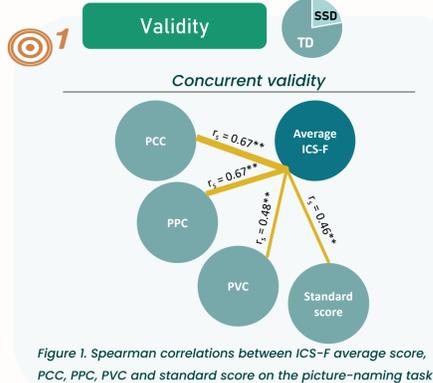
1) Classification SSD - TD according to the ICS-F norms

TD	SSD
Scores >P16 on ICS-F standard scores	Scores ≤P16 on ICS-F standard scores

2) Comparison with the group classification

- Sensitivity * + Specificity *

RESULTS



Age groups	n	P3	P16	P50	Mean	SD
3-3;6	32	3.27	3.99	4.21	4.29	0.54
3;6-4	25	3.98	4.14	4.57	4.57	0.42
4-4;6	37	4.14	4.54	5.00	4.81	0.3
4;6-5	21	4.00	4.06	5.00	4.74	0.41
5-5;6	32	4.13	4.71	5.00	4.87	0.27
Whole group	147	3.67	4.14	5.00	4.66	0.45

DISCUSSION POINTS

This study replicates the methods of previous research on ICS in other languages [6,7,10].

Similar to these studies, we found that the ICS-F :

- = has good validity and reliability scores
- = has slightly higher central distribution values, but still close to those of other languages

Previous works on the ICS reported varying levels of accuracy [6,7,10].

Our study showed low sensitivity (<80%) and fair specificity (>80%)

- = In line with the varying levels of accuracy observed in previous works
- Variations can be explained by ≠ on age ranges, threshold selection, the type of gold-standard [11]

Limitations/Perspectives :

Our sensitivity/specificity rates indicate that the ICS-F is currently more of a confirmatory tool than a screening tool. However, as the ICS is designed to be a screening tool [6], perspectives could be considered :

- Perform an ROC curve analysis to determine satisfactory sensitivity levels.
- Norms for each age group were developed with a small number of participants
- We could extend the age groups to 1 year intervals
- 5 groups → 3 groups

The ICS-F appears to be a valid and reliable tool for screening for functional speech intelligibility in the French-speaking context. Normative data are also available.

The good psychometric properties of the ICS-F encourage its use by SLPs with French-speaking children.

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*FOOTNOTE

Sensitivity = the ability of a test to detect a true positive, being based on the true positive rate, reflecting a test's ability to correctly identify all people who have a condition [11]

Specificity = the ability of a test to detect a true negative, being based on the true negative rate, correctly identifying people who do not have a condition [11]

AFFILIATIONS & CONTACT

- Speech and Language Pathology Department, RUCHE Research Unit, University of Liege, Belgium
- Faculty of Rehabilitation Medicine - Communication Sciences & Disorders, University of Alberta, Canada

Contact : leonor.piron@uliege.be, PhD candidate, FRESH (F.N.R.S.) Grant

