



Contents lists available at ScienceDirect

International Journal of Pediatric Otorhinolaryngology

journal homepage: www.elsevier.com/locate/ijporl

Normative data and construct validity of a cross-linguistic functional speech outcome, the *Intelligibility in Context Scale: Italian* (ICS-I)



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ARTICLE INFO

Keywords:

Intelligibility in Context Scale
Norming data
Functional intelligibility
Speech sound disorder
Speech assessment
Parent report

ABSTRACT

Objectives: The Intelligibility in Context Scale (ICS) is a parent-report scale, world-wide translated and widely validated, by which parents can rate their child's functional speech intelligibility according to seven different communicative partners.

The study aimed to report and discuss the normative data of the Italian version of ICS (ICS-I) in Italian-speaking preschool children, and to investigate whether the age influences the ICS-I scores (construct validity). Socio-economic status (SES) of the family were investigated and compared to parents' ratings on child's speech intelligibility.

Methods: A cross-sectional observational study was conducted. Italian-speaking children aged 3–6 years ($n = 355$; mean age = 56.06 months; SD = 9.8 months), without major developmental impairment, were recruited in kindergartens throughout a convenience sampling. Parents completed a self-report form on their family SES (educational level and employment status of fathers and mothers). Children were independently rated by their mothers (ICS-I_m) and fathers (ICS-I_f).

Results: Results show that ICS normative data for the Italian preschool population (ICS-I_m = 4.52; SD = 0.46; ICS-I_f = 4.47; SD = 0.49) are consistent with previous evidence found in other languages, suggesting that ICS could be a potential cross-linguistic tool to assess functional intelligibility.

A statistically significant ($p < 0.001$) improvement in ICS-I score was found with increase of age (construct validity). No evidence of association ($p > 0.05$) with ICS-I was found for SES family.

Conclusion: The study provides normative data of the functional intelligibility assessed by a subjective parental scale. As for other previous international studies, ICS-I normative data suggest that a preschool child without major impairment shows a high degree of speech intelligibility, even if minimal differences of intelligibility are reported for different communicative partners.

The current findings support clinicians and researchers in implementing ICS-I in typical and also in atypical population with different SES background and promoting its application as a potential outcome measure in children with Speech Sound Disorders.

1. Introduction

1.1. Intelligibility in clinical practice

In recent years, significant changes occurred in the attempt to define the theoretical and clinical concept of intelligibility. The dyadic and

fluid nature of intelligibility has been recently pointed up: the speaker as well the listener are crucial to make a verbal signal understood [1]. Both of them are responsible for pursuing and achieving an acceptable degree of intelligibility. Thus, the match between the intended communicative productions of the speaker and the comprehension from the listener results in a degree along with a continuum between perfect or

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<https://doi.org/10.1016/j.ijporl.2020.109924>

Received 7 November 2019; Received in revised form 30 January 2020; Accepted 30 January 2020

Available online 01 February 2020

0165-5876/ © 2020 Published by Elsevier B.V.