



An articulatory-based disyllabic and trisyllabic Non-Word Repetition test: reliability and validity in Italian 3- to 7-year-old children

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ABSTRACT

The contribution of the phonological working memory to the Non-Word Repetition (NWR) task is well established, but growing evidence also suggests a valuable underlying role of oro-motor abilities. Assuming that NWR involves output implementation mediated by the speech motor system, the study aimed to develop a novel Italian NWR task of disyllabic and trisyllabic items. The task, for the first time, was composed using each Italian speech sound.

The study also aimed to investigate the reliability properties of the task (test–retest, intra-rater, inter-rater), internal consistency, concurrent and construct validity, and to collect normative data for pre-school children. An observational cross-sectional study was conducted and 375 Italian-speaking typically developing children aged 3.0–6.11 years were assessed with the novel test. Two raters assessed inter-rater reliability in a random sub-sample; test–retest reliability was examined through a repeated administration of the task two weeks apart; intra-rater reliability was investigated by two evaluations of the same audio-recordings. To evaluate concurrent validity children were also assessed through a pre-existing NWR test, and to estimate construct validity, scores from children of different age groups were compared.

Results indicated excellent test–retest, intra-rater, inter-rater reliability agreement, high internal consistency and good concurrent validity. Normative data suggested that successful performance on NWR increases with age and declines with an increase in stimuli length. Despite the low working memory load in the disyllabic and trisyllabic items, a saturation of the task was not observed for any age group.

The novel NWR test is a reliable and valid instrument, and it can be applied in clinical practice to assess how the child retains, plans and articulates a phonological and motor programme of unknown verbal material.

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KEYWORDS

Non-Word Repetition; language acquisition; speech production measurement; validity; language assessment

Introduction

Non-Word Repetition (NWR) refers to the task of repeating novel phonological sequences immediately after hearing them (Archibald, 2008). The NWR task mimics one fundamental language-learning mechanism: immediate repetition of unfamiliar words (Archibald, 2008).

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