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Psychometric properties of the Sensory Integration Infant Routines Questionnaire: Final version

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Introduction

Sensory integration is defined as “the neurological process that organizes sensations from one’s body and from the environment and makes it possible to use the body effectively in the environment” (Ayres, 1962).

Research suggests that 5%-20% of children without diagnosed disabilities have difficulties in sensory integration, which consequently affects the child’s ability to participate in daily activities, including sleeping, feeding, toileting, learning, playing and socialising.

The relationship between sensory integration and participation reinforces the need and importance of early identification in order to minimise the impact of sensory difficulties on development. **So, the screening and identification of sensory integration challenges is crucial for referral to the appropriate early childhood intervention services.**

Sensory Integration Infant Routines Questionnaire (SIIRQ)

The **SIIRQ is designed to screen for behaviors reflecting possible sensory integration concerns in children aged between 8 and 30 months.** The items reflect the child’s experience of the routine, using descriptive terms compatible with caregiver observation.

This tool emerged from available literature, clinical experience, and the items provide descriptive information about sensory integration vulnerabilities in all of the ASI patterns described in the Smith-Roley et al., model (2016): sensory over-responsive/defensive, sensory under-responsiveness, poor posture/ocular-motor, poor praxis including planning/sequencing.

The items were distributed according to the seven dimensions of daily routines, based on McWilliam’s Routines-Based Interview (McWilliam, 2010):



Keywords: Activities of daily living; Infants; Routines; Sensory integration; Sensory integration concerns; Validation of assessment instruments.

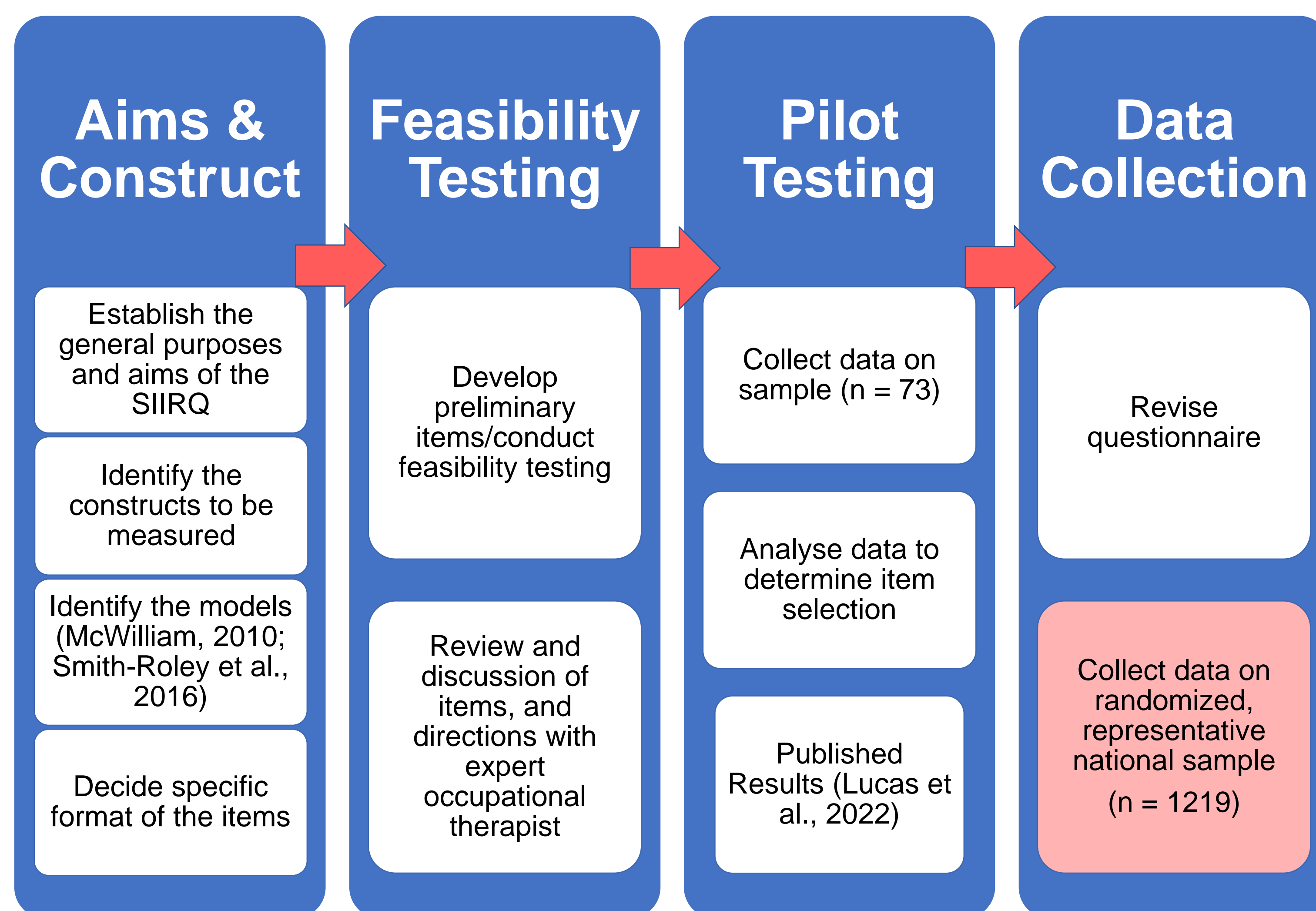
Purpose

- Build adapt and validate a tool, the SIIRQ, for identifying sensory integration vulnerabilities that can affect many areas in the child’s life;
- Describe the psychometric evaluation of the SIIRQ, including internal consistency reliability.

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Overview of SIIRQ Development



Method

Parents of 1219 typical children 8 to 30 months of age completed the SIIRQ; parents used a four-point Likert scale to report the frequency of time their children manifested each behaviour. Items for which 80% or more of the caregivers responded “Almost Always or Always” or “Often or Quite Often”, were removed from the questionnaire. Dunn (1994) refers that common behaviours are not likely to be appropriate items for a tool of sensory processing difficulties. Reliability was also explored by examining preliminary internal consistency using Cronbach’s alpha (Almeida & Freire, 2017) aiming to obtain acceptable values (>0.60; Taber, 2018). The study was approved by the research Ethics Committee of the University of Minho (CEICSH Process 123/2020).

Results

In twenty items, 80% or more of the caregivers responded “Almost Always or Always” or “Often or Quite Often”. These items were removed from the questionnaire. After removing the items, we analyzed the homogeneity of the remaining items within each dimension (Cronbach’s alpha). All of the dimensions showed an acceptable internal consistency ($\alpha \geq 0.60$).

Conclusion

The importance of early screening, assessment, and intervention planning for young children with sensory integration disorders is crucial in the areas of education and health (Mailloux et al., 2014).

The SIIRQ has the potential to make a unique contribution to the overall screening of children with sensory processing concerns. This tool seeks to identify early possible vulnerabilities of sensory integration for early referral and intervention, in order to respond to the concerns and priorities of families, favoring the natural contexts of the child within daily routines.

The final version of the Portuguese questionnaire for children aged between 8 and 30 months, includes 80 items compatible with ASI® and distributed over 7 dimensions of daily routines.

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