

Identifying communication difficulties in early childhood: Validation of the FOCUS questionnaire

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Summary

Communication is one of the most important areas of child development. It enables the exchange of information, the expression of wants and emotions, and the direction of the behaviour of communication partners (Karlep, 2003; Kiessling & Fabry, 2021). However, not all children develop age-appropriate communication skills, which affects their general development and can lead to problems later in life (Dickinson et al., 2003; Rautakoski et al., 2021; Singer et al., 2023). Poor communication skills impede children's social development and have a negative effect on their mental health and well-being. Children with communication disorders experience a variety of participation and activity limitations in everyday life (Hancock et al., 2023; McCormack et al., 2009; Wilmot et al., 2024). Thus, early identification of communication difficulties is crucial for child development. It enables them to overcome or minimize the impact of communication difficulties on their further development.

Estonian speech and language therapists have access to several standardized norm-referenced language tests (Hallap et al., 2019; Padrik et al., 2013; Edwards et al., 1999; Urm & Tulviste, 2016), but none of these evaluate a child's performance in real-life communication situations. The use of the CCC-2 (Children's Communication Checklist – Second Edition) to assess the communication skills of Estonian children has also been researched (Hirv, 2018; Kaljuste, 2020; Kaarjärv, 2021). CCC-2 provides information on communication aspects difficult to assess during one-on-one clinical assessments with traditional language tests, such as stereotypical language use and nonverbal communication, but it cannot

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be used to assess children under the age of four or those with significantly delayed language development (Bishop, 2003).

The aim of this study was to evaluate the suitability of the Estonian-translated FOCUS questionnaire for assessing the communication skills of Estonian children. To achieve this, the psychometric properties (validity and reliability) of the Estonian-translated FOCUS questionnaire were examined. The study addressed the following research questions, which align with the research objective:

1. What is the validity of the Estonian-translated FOCUS questionnaire?
 - 1.1. What is the discriminative ability of the FOCUS? How do the FOCUS results differ between children with delays in expressive and/or receptive language development and those with typical language development?
 - 1.2. What is the convergent validity of the FOCUS?
2. What is the reliability of the Estonian-translated FOCUS questionnaire?
 - 2.1. What is the test-retest reliability of the FOCUS?
 - 2.2. What is the internal consistency of the FOCUS?

Method

The study sample consisted of 66 parents, whose children's ages ranged from 24 to 36 months. All the children, raised in monolingual families, spoke Estonian as their native language. The sample was divided into two groups: parents of children with typical language development (TD; $N = 45$) and parents of children with late language emergence (LLE; $N = 21$). The study mainly involved mothers ($N = 64$). Most of the participants were parents with higher education ($N = 44$) (see Table 1).

Parents were asked to complete two questionnaires: FOCUS and ASQ:SE-2. Each meeting lasted 20–30 minutes. To assess the test-retest reliability of the FOCUS, 48 parents completed it again two weeks later, with the second meeting lasting 10–15 minutes.

Results and discussion

The results indicated a good discriminative ability of the FOCUS. TD children achieved markedly higher scores than LLE children across overall scores (respectively $M = 278.60$; $M = 209.86$; $t = 6.83$, $p < 0,001$) and all subdomains

(see table 4), except for “receptive language/attention”, where the difference was somewhat smaller yet still significant.

Convergent validity was assessed by comparing the results of the FOCUS with those of the ASQ:SE-2 questionnaire, designed to evaluate children’s social-emotional development. Higher scores on the FOCUS indicate parents’ higher ratings of their child’s communication skills, whereas higher scores on the ASQ:SE-2 indicate more problems in the child’s social-emotional development. A moderate negative correlation was found between the FOCUS overall score and the ASQ:SE-2 social communication domain for the whole sample ($r = -0.38$; $p < 0.01$) (see Table 5). In the LLE group, parents’ ratings of their children’s communication skills on the FOCUS were moderately correlated with the ASQ:SE-2 social-communication domain ($r = -0.46$; $p < 0.05$) and strongly correlated with the ASQ:SE-2 interaction domain ($r = -0.63$; $p < 0.01$). The overall scores of the two questionnaires showed non-significant weak correlations for the entire sample ($r = -0.22$) and moderate correlations for the LLE group ($r = -0.31$).

The internal consistency of the FOCUS questionnaire ranged from satisfactory to very high ($\Omega = 0.71$ – 0.92) for eight out of nine subdomains, and the internal consistency for the total score was very high ($\Omega = 0.97$) (see Table 6). The subdomain “receptive language/attention” demonstrated a low internal consistency ($\Omega = 0.67$). Further analysis revealed that the elimination of the fourth item (“My child can sit and listen to stories”) increased the internal consistency of this subdomain ($\Omega = 0.85$).

Test-retest reliability of the FOCUS was determined by comparing questionnaire scores two weeks apart. The average FOCUS score the first time was 259 (min = 152, max = 335, SD = 49.8), and the second time was 264 (min 131, max 345, SD = 51.1). The intraclass correlation coefficient was high ($r = 0.94$), which reflects very good test-retest reliability.

The results of the study indicate that the FOCUS is generally suitable for assessing the communication skills of Estonian children aged 24–36 months. First, the validity of the FOCUS was assessed. Comparisons of the overall mean score and its subdomains revealed that the FOCUS can discriminate children with delays in expressive and/or receptive language development from those with typical language development. Neuman et al. (2017) reached a similar finding. Good discriminative ability is a crucial indicator from a validity perspective, ensuring that the questionnaire measures the intended constructs (American Educational ..., 2014).

The validity of the FOCUS in correlation with ASQ:SE-2 was investigated. The results showed that there were moderate to strong, statistically significant correlations between the FOCUS total score and the communication-related

subdomains of the ASQ:SE-2. No statistically significant correlations were found between the FOCUS results and the non-communication domains of ASQ:SE-2. The obtained results demonstrate good convergent validity ($r = 0.3\text{--}0.7$) (Cohen & Swerdlik, 2018) and are consistent with the findings of previous studies (Neumann et al., 2017; Thomas-Stonell et al., 2013; Washington et al., 2013).

The focus of the second research question was to assess the reliability of the FOCUS. The Estonian-translated FOCUS questionnaire has a very high internal consistency, equivalent to the original (Thomas-Stonell et al., 2010) and German-translated versions (Neumann et al., 2017). Results show that all items consistently measure the same construct, making it a reliable assessment tool.

The FOCUS has very high test-retest reliability ($r = 0.94$), comparable with earlier findings (Neumann et al., 2017; Thomas-Stonell et al., 2010). The results indicate that the FOCUS is reliable, and the results are neither random nor dependent on time or other variables.

The psychometric properties of the FOCUS are good; however, the subdomain “receptive language/attention” scored lower in discriminative ability and internal consistency. Neumann et al. (2017) found that the subdomain “receptive language/attention” differentiates TD and LLE groups, but not as significantly as other subdomains. This study found similar results. The FOCUS has a very high internal consistency for all 50 items (Neumann et al., 2017; Thomas-Stonell et al., 2010), but the internal consistency of the subdomain “receptive language/attention” is low. The item “My child can sit and listen to stories” should be removed or replaced because it differs from others in that subdomain.

Keywords: communication skills, communication difficulties, assessment of communication skills, FOCUS questionnaire, early childhood