

# Suitability of the Estonian adaption of the *Ages and Stages Questionnaires: Social-Emotional 2nd Ed (ASQ:SE-2)* 36 Month Questionnaire to assess social-emotional behaviour in 3-year-old Estonian children

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## Summary

According to the Socio-Cognitive Integration of Abilities Model (*SOCIAL*) (Beauchamp & Anderson, 2010), social-emotional skills as well as social-emotional development is a crucial part of social competence and as such is dependent on brain integrity, neurobiological development and internal and external factors. Children who have fewer social-emotional problems in preschool years and are more social-emotionally competent will, later in life, do better at school, have more friends, have better social relationships, and exhibit fewer psychiatric problems including depression and anxiety – the two most common yet deliberating psychiatric problems in adolescence (Burt, Obradović, Long, & Masten, 2008; Domitrovich, Durlak, Staley, & Weissberg, 2017; Jones, Greenberg, & Crowley, 2015; Olsson, McGee, Nada-Raja, & Williams, 2013; Thomson et al., 2019). The positive effect of better social-emotional competences is also seen in adulthood as children with better social-emotional skills grow older and continue to show more resilience, a greater satisfaction with life, and a better quality of interpersonal relationships (Jones, et al., 2015).

Researchers have agreed that social-emotional skills already start to build in infancy and their development continues through childhood and adolescence. At this stage they are robustly dependent on the maturation of the prefrontal cortex – toddlerhood and preschool years are especially sensitive periods at this time (Immordino-Yang, Darling-Hammond, & Krone, 2018).

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The importance of social-emotional skills is also highlighted in different curricula in Estonia (Koolieelse lasteasutuse riiklik õppekava, 2008, Kutsehariduse standard, 2013, Põhikooli riiklik õppekava, 2011) and elsewhere (Huang, Sherraden, & Clancy, 2014; Sklad, Diekstra, Ritter, Ben, & Gravesteyn, 2012; Weissberg & O'Brien, 2004). More and more programs are developed to enhance preschoolers' and/or elementary/secondary school students' social-emotional skills (Aviles, Anderson, & Davila, 2006; Baker-Henningham, Walker, Powell, & Gardner, 2009; Bierman, et al., 2008; Chung & McBride, 2015; Webster-Stratton, & Reid, 2004;). Some of these programs have been adapted and are available in Estonia, becoming increasingly popular in kindergartens and elementary schools (Kiusamisest vaba lasteaed ja kool, 2010; Samm-Sammult, 2013)

However, there is still a lack of suitable, evidence-based and low-cost assessment methods for social-emotional skills. Early identification of already present and/or emerging social-emotional problems at sensitive times can lead to early evidence-based intervention and thus could result in better outcomes (Anderson, et al., 2003; Lopez, Tarullo, Forness, & Boyce, 2000).

Stanley Greenspan (2004) stressed the importance of continuously screening infants' and preschoolers' social-emotional development. He also argued that the early screening of social-emotional development is best done either in a naturalistic setting (home and/or kindergarten observations) or in a more cost-effective way by including parents/primary caregivers' as the evaluators (Greenspan, 2004). For better results these screening methods should be reliable, valid, time-consuming, easy to understand, yet sensitive and specific enough. However there seems to be an overt lack of such assessment methods in Estonia. While the *Greenspan's Social Emotional Growth Chart: A Screening Questionnaire for Infants and Young Children* has been translated into Estonian as part of the Bayley-III (Bayley Scales of Infant and Toddler Development III) (Bayley, 2006) translation, its use in Estonia has been limited – the *Greenspan's Social Emotional Growth Chart: A Screening Questionnaire for Infants and Young Children* has mainly been used in clinical settings to evaluate the social-emotional skills and social-emotional development of children already seeking clinical expertise or assistance.

In the USA as well as in many European countries (e.g. Denmark, Norway, Spain, Sweden) for early developmental and social-emotional screening the Ages and Stages dynamic screening and intervention method has been used (Alvarez-Nuñez, González, Rudnitzky, & Vásquez-Echeverría, 2020; Marks, Sjö, & Wislon, 2018). Ages and Stages method consists of the screening of a child's overall development (communication, fine and gross motor, personal-social skills, problem-solving) (*Ages and Stages Questionnaires 3*) (Squires &

Bricker, 2009), more thorough screening for social-emotional problems (*Ages and Stages: Social-Emotional-2*)(ASQ:SE-2) (Squires, Bricker, & Twombly, 2015), and developmental and social-emotional learning activities to promote the child's development (Squires et al., 2015; Twombly & Fink, 2004).

In 2007 the first edition of *Ages and Stages Social-Emotional Questionnaires* (ASQ:SE) (Squires and Twombly, 2002) for screening the social-emotional difficulties of infants and toddlers was adapted to Estonian circumstances (Kaldoja & Kolk, 2012). This required parents/caregivers to fill in questionnaires which provided screening information about their child's self-regulation, compliance, social-competence, adaptive functioning, affect, and interaction with other people. In accordance with the translation and adaptation licenses, these ASQ:SE questionnaires were only used in a medical research setting (Kaldoja & Kolk, 2012; Kaldoja & Kolk, 2015), whilst still managing to gain positive feedback from parents, general practitioners, and kindergarten teachers. More than 10 years have passed and with the publishers' consent, new versions of the ASQ:SE-2 have been translated and adapted to Estonian circumstances. The complete set of ASQ:SE-2 consists of 9 questionnaires (for 2, 6, 12, 18, 24, 30, 36, 48, and 60 months old children) (for more details see Squires, et al., 2015).

However, as in Estonia:

- 1) children often start attending kindergarten at the age of 3;
- 2) a more thorough medical and developmental evolution examination is done by general practitioners at 36 months;
- 3) and special kindergarten groups for children who need specific support are available at 3 years old;

the main aim of the present paper was to assess the reliability, suitability, specificity, and validity, of the Estonian adaptation of the ASQ:SE-2 36 Months Questionnaire – a potential method for screening 3-year-old children for signs of social-emotional problems. The research also aimed to propose a suitable cutoff point for the Estonian adaptation of ASQ:SE-2 36 Month Questionnaire.

To fulfil this aim the following research questions were proposed:

- 1) What is the internal reliability of the Estonian adaptation of the ASQ:SE-2 36 Month Questionnaire?
- 2) What is the validity of the Estonian adaptation of the ASQ:SE-2 36 Month Questionnaire?
- 3) What is the sensitivity of the Estonian adaptation of the ASQ:SE-2 36 Month Questionnaire?
- 4) What is the specificity of the Estonian adaptation of the ASQ:SE-2 36 Month Questionnaire?

5) What is the best cutoff point for the Estonian adaptation of the ASQ:SE-2 36 Month Questionnaire?

62 children between the ages 31.70 months to 43.24 months from randomly assigned kindergartens from Harju and Pärnu County participated ( $M=37.89$ ,  $SD=2.75$ ). There were 36 boys and 26 girls, and there were no significant differences between boys and girls in terms of age (boys:  $M=37.65$ ,  $SD=2.70$ ; girls:  $M=38.22$ ,  $SD=2.83$ ) or overall developmental functioning (FISQ score for boys:  $M=101.22$ ,  $SD=11.67$ , and FISQ score for girls:  $M=107.19$ ,  $SD=12.33$  respectively).

The following assessment methods were used:

- 1) ASQ:SE-2 36 Month Questionnaire (Squires, Bricker, & Twombly, 2015)
- 2) *Greenspan Social-Emotional Growth Chart: A Screening Questionnaire for Infants and Young Children* (Greenspan, 2004)
- 3) *WPPSI-IV* (Wechsler, and Psychological Corporation, 2012)
- 4) ASQ3 33, 36 and 42 Month Questionnaires (Squires and Bricker, 2009).

Our research shows that the Estonian ASQ:SE-2 36 Month Questionnaire internal reliability is  $\alpha=0.719$ , and sensitivity and specificity 66.7% and 81.5% respectively, whereas the concurrent validity of the ASQ:SE-2 was as follows:  $r=-0.629$ ,  $p<0.001$ .

In conclusion: the research confirms the suitability of the Estonian adaptation of ASQ:SE-2 to screen the Estonian speaking children's social-emotional development at the age of 3. It will be proposed, that in the near future other ASQ:SE-2 questionnaires will undergo similar research to further improve the quality of ASQ:SE-2 as a dynamic screening tool for social-emotional behavioural problems in children from 1 to 72 months of age.

*Keywords:* Preschool children, social-emotional development, screening, assessment method for social-emotional development

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