

# Age-related issues of instruments screening for autism in young children

Loretta Thomaidis  
Antigoni Choleva  
Miltiades Kyprianou

Second Department of Paediatrics,  
Developmental Assessment Unit,  
“P. & A. Kyriakou” Children’s Hospital,  
National and Kapodistrian University  
of Athens, School of Medicine,  
Athens, Greece

## Dear editor

A recent publication in your journal titled “ESSENCE-Q – a first clinical validation study of a new screening questionnaire for young children with suspected neurodevelopmental problems in south Japan” by Hatakenaka et al<sup>1</sup> has caught our attention. The proposed instrument has produced promising results in the specific sample. Coupled with its simplicity, the screening instrument is indeed worthy of merit.

Our team is also developing a screening instrument for autism in toddlers. Identification of communication disorders in toddlers as early as possible warrants an earlier intervention with more promising results.<sup>2-4</sup> However, during our assessment, we found that age has a verifiable confounding effect on the screening process that can be summed up as follows: younger children with speech and language delay may be miscategorized as children with speech and language disorder from the autism spectrum disorder. This misclassification evidently increases the frequency of false-positive identifications and, as a consequence, degrades the specificity of the prediction model.

Low specificity is the odd one out of the otherwise good psychometric properties of the ESSENCE-Q, especially at the cutoff values proposed by the authors. We find ourselves in agreement with the authors that a screening tool primarily has to possess high sensitivity, and therefore the cutoff values should be kept as low as possible. Our question is whether the increased false-positive rate and thus the decreased specificity reported by the authors may also be age related, as in our sample. From this point of view, we would be grateful if the authors provided us with the data regarding comparisons of the age at the time of assessment of the four groups, ie, true positives, true negatives, false positives and false negatives.

If the hypothesis of the particular confounding effect of age is verified in the findings of the authors, then this will strengthen our conviction that age has to be included in the prediction equation of the screening model.

## Disclosure

The authors report no conflicts of interest in this communication.

## References

1. Hatakenaka Y, Fernell E, Sakaguchi M, Ninomiya H, Fukunaga I, Gillberg C. ESSENCE-Q – a first clinical validation study of a new screening questionnaire for young children with suspected neurodevelopmental problems in south Japan. *Neuropsychiatr Dis Treat*. 2016;12:1739–1746.
2. Canal-Bedia R, Garcia-Primo P, Santos-Borbujo J, Bueno-Carrera G, Posada-De la Paz M. Programas de cribado y atención temprana en niños con trastornos del espectro autista [Screening and early care programmes in children with autism spectrum disorders]. *Rev Neurol*. 2014;58 (Suppl 1):S123–S127. Spanish [with English abstract].

Correspondence: Miltiades Kyprianou  
Second Department of Pediatrics,  
Developmental Assessment Unit, “P. & A.  
Kyriakou” Children’s Hospital, National  
and Kapodistrian University of Athens,  
School of Medicine, 18, Makrinitas  
Street, Athens 11522, Greece  
Tel +30 697 744 0480  
Email [miltosk@gmail.com](mailto:miltosk@gmail.com)

3. Maenner MJ, Schieve LA, Rice CE. Frequency and pattern of documented diagnostic features and the age of autism identification. *J Am Acad Child Adolesc Psychiatry*. 2013;52(4):401–413.
4. Corsello CM, Akshoomoff N, Stahmer AC. Diagnosis of autism spectrum disorders in 2-year-olds: a study of community practice. *J Child Psychol Psychiatry*. 2013;54(2):178–185.

## Authors' reply

Yuhei Hatakenaka<sup>1,2</sup>

Elisabeth Fernell<sup>2</sup>

Masahiko Sakaguchi<sup>3</sup>

Hitoshi Ninomiya<sup>3</sup>

Ichiro Fukunaga<sup>1</sup>

Christopher Gillberg<sup>2</sup>

<sup>1</sup>Kochi Gillberg Neuropsychiatry Centre, Kochi Prefectural Medical and Welfare Centre, Kochi, Japan; <sup>2</sup>Gillberg Neuropsychiatry Centre, Sahlgrenska Academy, University of Gothenburg, Gothenburg, Sweden; <sup>3</sup>Integrated Centre for Advanced Medical Technologies, Kochi University Medical School, Kochi, Japan

Correspondence: Yuhei Hatakenaka  
Email [yuhei.hatakenaka@gnc.gu.se](mailto:yuhei.hatakenaka@gnc.gu.se)

## Dear editor

We have read with interest and appreciate the comments made by Loretta Thomaidis, Antigoni Choleva and Miltiades Kyprianou.

In our study group, the false-positive indices (1-specificity) were 0.50 in the subgroup younger than 36 months and 0.44 in the subgroup 36 months and older.

Given the limitations of our study (all subjects were clinical cases and numbers were relatively small), we cannot speculate whether or not this possible “tendency” is “real”. In our ongoing studies of a general population sample, we will definitely take into account the suggestion proposed by the commentators and perform relevant analyses regarding age-related effects.

## Disclosure

The authors report no conflicts of interest in this communication.

Dove Medical Press encourages responsible, free and frank academic debate. The content of the Neuropsychiatric Disease and Treatment ‘letters to the editor’ section does not necessarily represent the views of Dove Medical Press, its officers, agents, employees, related entities or the Neuropsychiatric Disease and Treatment editors. While all reasonable steps have been taken to confirm the content of each letter, Dove Medical Press accepts no liability in respect of the content of any letter, nor is it responsible for the content and accuracy of any letter to the editor.

### Neuropsychiatric Disease and Treatment

Dovepress

## Publish your work in this journal

Neuropsychiatric Disease and Treatment is an international, peer-reviewed journal of clinical therapeutics and pharmacology focusing on concise rapid reporting of clinical or pre-clinical studies on a range of neuropsychiatric and neurological disorders. This journal is indexed on PubMed Central, the ‘PsycINFO’ database and CAS,

and is the official journal of The International Neuropsychiatric Association (INA). The manuscript management system is completely online and includes a very quick and fair peer-review system, which is all easy to use. Visit <http://www.dovepress.com/testimonials.php> to read real quotes from published authors.

Submit your manuscript here: <http://www.dovepress.com/neuropsychiatric-disease-and-treatment-journal>