Test-retest reliability and concurrent validity of Autism Treatment Evaluation Checklist (ATEC)

*Confiabilidade test-retest e validade concorrente da
Autism Treatment Evaluation Checklist (ATEC)*

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DEAR EDITOR,

Autism spectrum disorder (ASD) is a well-known neurodevelopmental disorder which affects social, communication and behavior[1]. With the advancement of research, measuring treatment efficacy has become increasingly important. Accordingly, Autism Treatment Evaluation Checklist (ATEC) is an instrument designed by *Autism Research Institute* in order to assess the effectiveness of autism treatments[2]. There are many scales dedicated to people with ASD, but they usually focus on diagnosis and assessment of its severity. ATEC fills a gap in clinical practice and in research as it measures individual progresses along treatments.

ATEC is a scale inversely proportional to the improvement of the subject (the lower the score, the better the condition), and is divided into four subscales that cover all areas affected by autism: (i) Speech/Language/Communication (14 items), (ii) Sociability (20 items), (iii) Sensory/Cognitive Awareness (18 items) and (iv) Health/Physical/Behavior (25 items). It is a brief and easily applicable formulary that can be used to assess efficacy of any kind of interventions.

In order to contribute with the validation and propagation of ATEC in Brazil, a study was conducted to analyze its test-retest reliability and its concurrent validity by comparing it with the Childhood Autism Rating Scale (CARS)[3], a well-established instrument for measuring autism. Initially, the ATEC was translated, backtranslated and culturally adapted into Brazilian Portuguese. It was administered as an interview to 42 mothers of autistic children and re-administered a week later, in the same research conditions. CARS was scored for all the participants. The mothers aged between 23 e 45 years old (mean = 32.62; standard deviation = 5.63). The children were mostly boys (34 boys and 8 girls) aged between 2 and 6 years old (mean = 4.12; standard deviation = 1.00). Spearman correlation was used to assess test-retest reliability and concurrent validity of each subscale and total scale.

For test-retest analyses, a correlation co-efficient value greater than 0.9 was found for all subscales and total. Reliability is considered high if the correlation coefficient is greater than 0.7[3]. All correlations were significant at p < 0.001. For concurrent validity, it was found a correlation coefficient of 0.8 (p < 0.001) between CARS and total ATEC and a correlation higher than 0.7 (p < 0.001) between CARS and subscales 2 and 3. The correlation between CARS and subscales 1 and 4 were greater than 0.6 (p = 0.001), which is still a good correlation.

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The results showed high test-retest reliability and high concurrent validity of ATEC. It is suggested, therefore, that ATEC can be a reliable and valid tool for evaluating treatments and improvements in people with ASD. The reliability and other validity studies conducted by ATEC designers on the English formulary corroborate these results and can be found at *Autism Research Institute* website[5], as well as a thorough description of the scale development process and the Brazilian Portuguese language version. Future research is needed with others subjects or groups, as well as analyzing its sensitivity to change as an outcome measure.

DISCLOSURE

The author reports no conflicts of interest.

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