

## **Reply to the comment on “Factor structure of the Rutter Teacher Questionnaire in Portuguese children”**

### **Resposta ao comentário sobre “Estrutura fatorial do Questionário de Rutter para Professores numa amostra de crianças portuguesas”**

Dear Editor,

We greatly appreciate the interest expressed by Érico Moura and Simone Hauck in our paper, which is entitled “Factor structure of the Rutter Teacher Questionnaire in Portuguese children”.

The aim of this study was to explore the Rutter Scale B2 factorial structure in a large sample of Portuguese children. As previously

acknowledged by commentators, it is crucial that upon its adaptation to another culture, the factorial structure be reviewed. Indeed, this is one of the recommended methods to investigate its construct validity.<sup>1</sup> This being the case, it is not entirely surprising that, when comparing the Portuguese RB2 factor structure against both the original Rutter subscales<sup>2</sup> and other factor structures, (e.g.<sup>3,4</sup>), some differences can be observed.

Although the total percentage of variance seen (38.8%) was not high, the fact that the first factor (hyperactivity/conduct) explained approximately half of the total percentage, and that the double of that explained by the second factor (anxious/depressive, 9.48%) is common and expected.<sup>1</sup>

Moreover, if it can be argued that the use of a screen test based on the Cattell criteria to extract the number of factors results in a certain level of subjectivity, then the decision made was to first submit it to an inter-rater reliability test. All researchers i.e., 5 psychologists and 4 psychiatrists with clinical experience in child psychiatry among other specialties agreed on a three-factor structure. After analysing the items' content, all five considered this to be a clinically significant solution. We believe that the comprehensibility of factors is an important aspect in their selection. As pointed out in the discussion, please note that the

factorial structure obtained does reflect the hyperkinetic conduct disorder as described in ICD-10,<sup>5</sup> which empirically validates both the classification and the factorial structure.

While being aware that it is unlikely that the fundamental dimensions of any psychological phenomena be uncorrelated, we based our assumption on the varimax (orthogonal) rotation. Because the aim of this method is to rotate the vector of factors so as to identify certain key combinations to simplify the analysis,<sup>1</sup> we used this kind of rotation in order to clean up the factors and facilitate its interpretability as separate dimensions. The fact that other authors such as Kumpulainen et al.<sup>3</sup> in Finland and Ho et al.<sup>4</sup> in China, used the varimax rotation also convinced us of the use of this method since it would allow us to compare our factorial structure against those deriving from different cultures. Another reason on which we based our decision was the fact that

the dimensional scores were also intended to be used as clinical variables in other epidemiological studies.

Ana Telma Pereira, Berta Rodrigues Maia, Mariana Marques,  
Sandra Carvalho Bos, Maria João Soares, António Macedo,  
Maria Helena Pinto de Azevedo  
Institute of Medical Psychology, School of Medicine,  
Universidade de Coimbra,  
Coimbra, Portugal

Ana Gomes  
Department of Educational Sciences, Universidade de Aveiro,  
Campus Universitário de Santiago,  
Aveiro, Portugal

## Disclosures

Writing group member	Employment	Research grant <sup>1</sup>	Other research grant or medical continuous education <sup>2</sup>	Speaker's honoraria	Ownership interest	Consultant/ Advisory board	Other <sup>3</sup>
Ana Telma Pereira	Universidade de Coimbra	-	-	-	-	-	-
Berta Rodrigues Maia	Universidade de Coimbra	-	-	-	-	-	-
Mariana Marques	Universidade de Coimbra	-	-	-	-	-	-
Sandra Carvalho Bos	Universidade de Coimbra	-	-	-	-	-	-
Maria João Soares	Universidade de Coimbra	-	-	-	-	-	-
Ana Gomes	Universidade de Aveiro	-	-	-	-	-	-
António Macedo	Universidade de Coimbra	-	-	-	-	-	-
Maria Helena Pinto de Azevedo	Universidade de Coimbra	-	-	-	-	-	-

\* Modest

\*\* Significant

\*\*\* Significant. Amounts given to the author's institution or to a colleague for research in which the author has participation, not directly to the author.

For more information, see Instructions to Authors.

## References

1. Kline P. *An easy guide to factor analysis*. New York: Routledge; 1994.
2. Rutter MA. Children's Behavior Questionnaire for completion by the Teachers: preliminary findings. *J Child Psychol Psychiatry*. 1967;8(1):1-11.
3. Kumpulainen K, Räsänen E, Henttonen I, Moilanen I, Piha J, Puura K, Tamminen T, Almqvist F. Children's behavioural/emotional problems: a comparison of parents' and teachers' reports for elementary school-aged children. *Eur Child Adolesc Psychiatry*. 1999;8 Suppl 4:41-7.
4. Ho TP, Patrick WL, Leung ESL, Taylor E, Bacon-Shone J, Mak FL. Establishing the Constructs of Childhood Behavioral Disturbances in a Chinese Population: A Questionnaire Study. *J Abnorm Child Psychol*. 1996;24(4):417-31.
5. World Health Organization. *The ICD-10 Classification of Mental and Behavioral Disorders Diagnostic Criteria for Research*. Geneva: World Health Organization; 1994.