

Correspondence

Confounding in case control studies

Sir,

I read with interest the article on computerized tests to evaluate psychomotor performance in children with specific learning disabilities (SpLD) by Taur and colleagues¹. The study was conducted with the aim to compare the performance on a battery of six psychomotor tests of children with SpLD and those without any learning disabilities (controls) using computerized tests. The authors deserve credit for their effort. For the purpose of this study, as stated by the authors, 25 children with SpLD and 25 controls (matched for age, socio-economic status and medium of instruction) were given three training sessions over one week. After that children were asked to perform on the six computerized psychomotor tests. Results were compared between the two groups. I have a concern with the way this study was conducted and results interpreted thereof. The authors in the results stated that the children with SpLD fared significantly worse on finger tapping test, choice reaction test, digit picture substitution test and card sorting test compared to the controls. For arriving at this conclusion a baseline comparison on computer literacy of the two groups should have been assessed. This baseline comparison should have been a part of matching as difference in the use of computers or their awareness may act as a confounder in this study. A confounding variable gives rise to situations in which the effects of two processes are not separated, or the contribution of causal factors cannot be separated, or the measure of the effect of exposure or risk is distorted because of its association with other factors influencing the outcome of the study. Therefore, matching for computer knowledge at the initial stage would have prevented it or alternatively an adjustment for difference in knowledge about computers should have been conducted. This is important in view of ever increasing use of technology by children across all sections of society.

Sunil Kumar Raina

Department of Community Medicine
Dr R.P. Govt. Medical College, Tanda 176 001
Kangra, Himachal Pradesh, India
ojasrainasunil@yahoo.co.in

Reference

1. Taur S, Karande S, Saxena AA, Gogtay NJ, Thatte UM. Use of computerized tests to evaluate psychomotor performance in children with specific learning disabilities in comparison to normal children. *Indian J Med Res* 2014; 140 : 644-8.