Who benefits more from cognitive training? Analysis of improvement profiles in children using clustering methods

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Executive functions (EF) are important cognitive functions for educational and life success that can be improved through cognitive training. For more than fifteen years, our team has implemented Mate Marote, a gaming software to train and assess EF in children. Interventions last 1 to 4 months and take place within schools, with successful results. We present a clustering analysis of an experiment where 66 6-year-olds' EF were evaluated before and after an intervention of about 27 sessions of 10-15 minutes each, distributed over 3 months. The aim was to determine how participants are grouped according to their improvement after cognitive training. The k-means method was used. In addition, groups were characterized and compared in terms of sociodemographic and academic variables. We discuss results and implications for the analysis of performance profiles in cognitive training, as well as the appropriateness of clustering analysis in the field.