Preliminary investigation of the effects of Relational Training Intervention on cognition in patients with mild-to-moderate Alzheimer's disease treated with a cholinesterase inhibitor therapy

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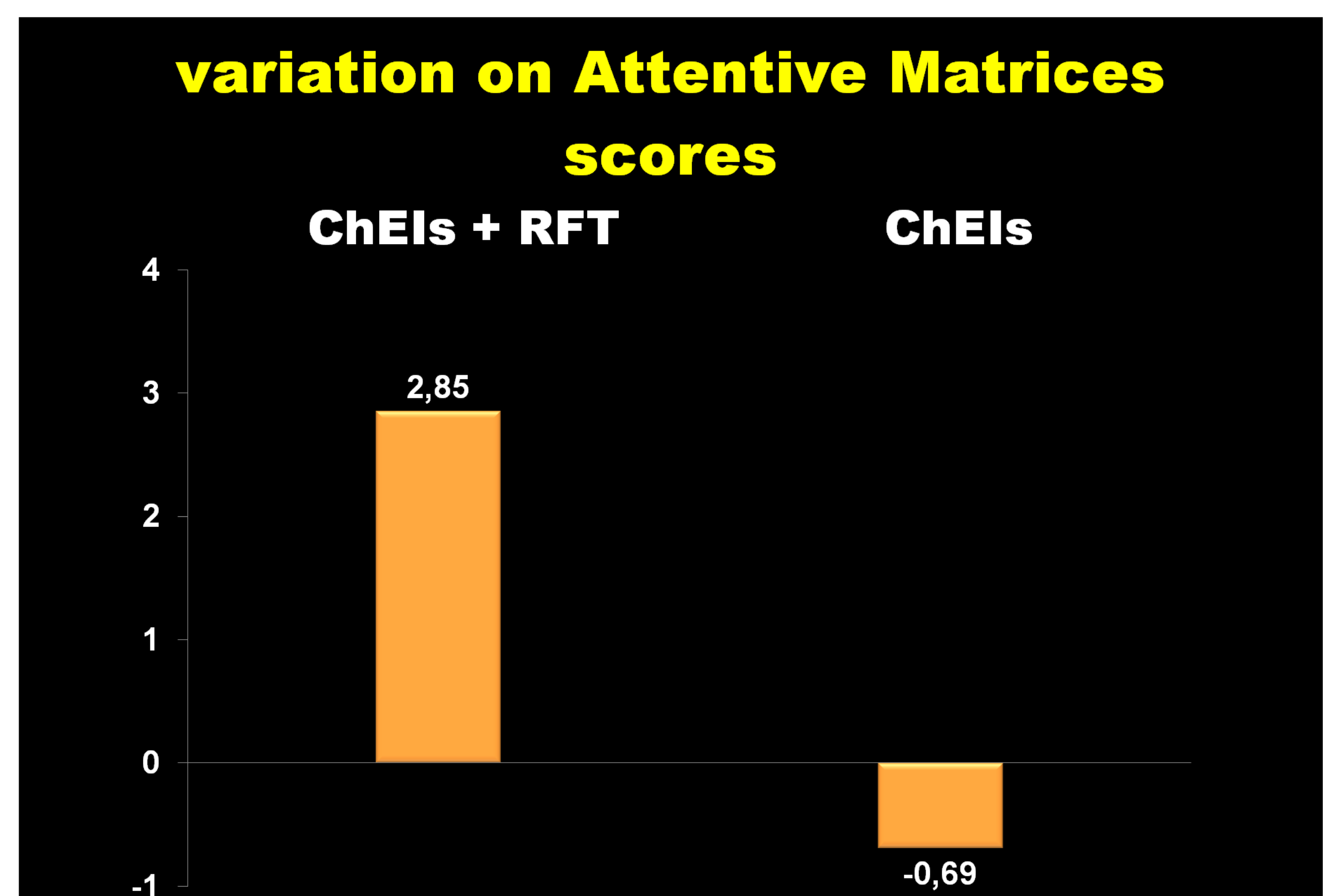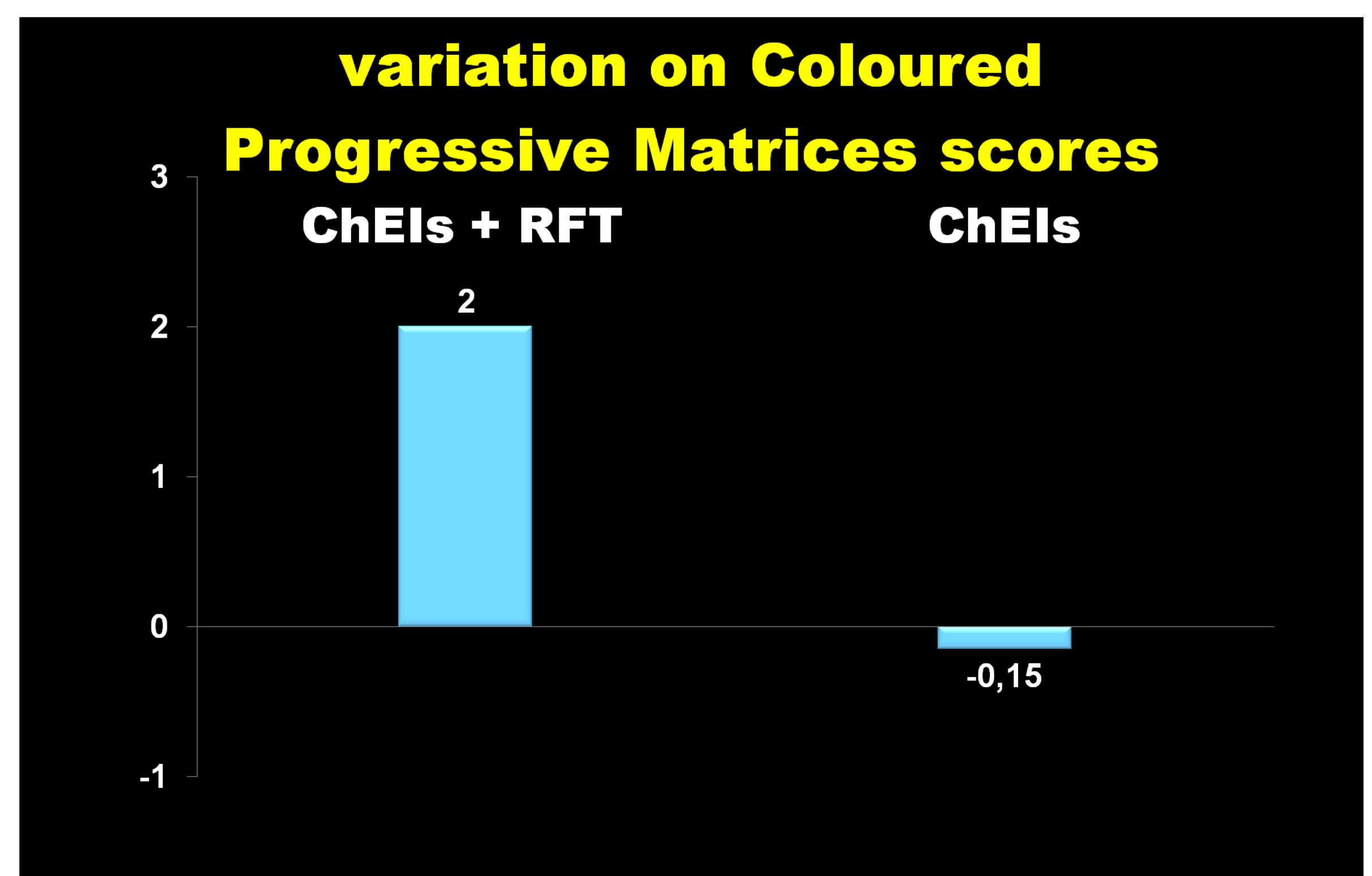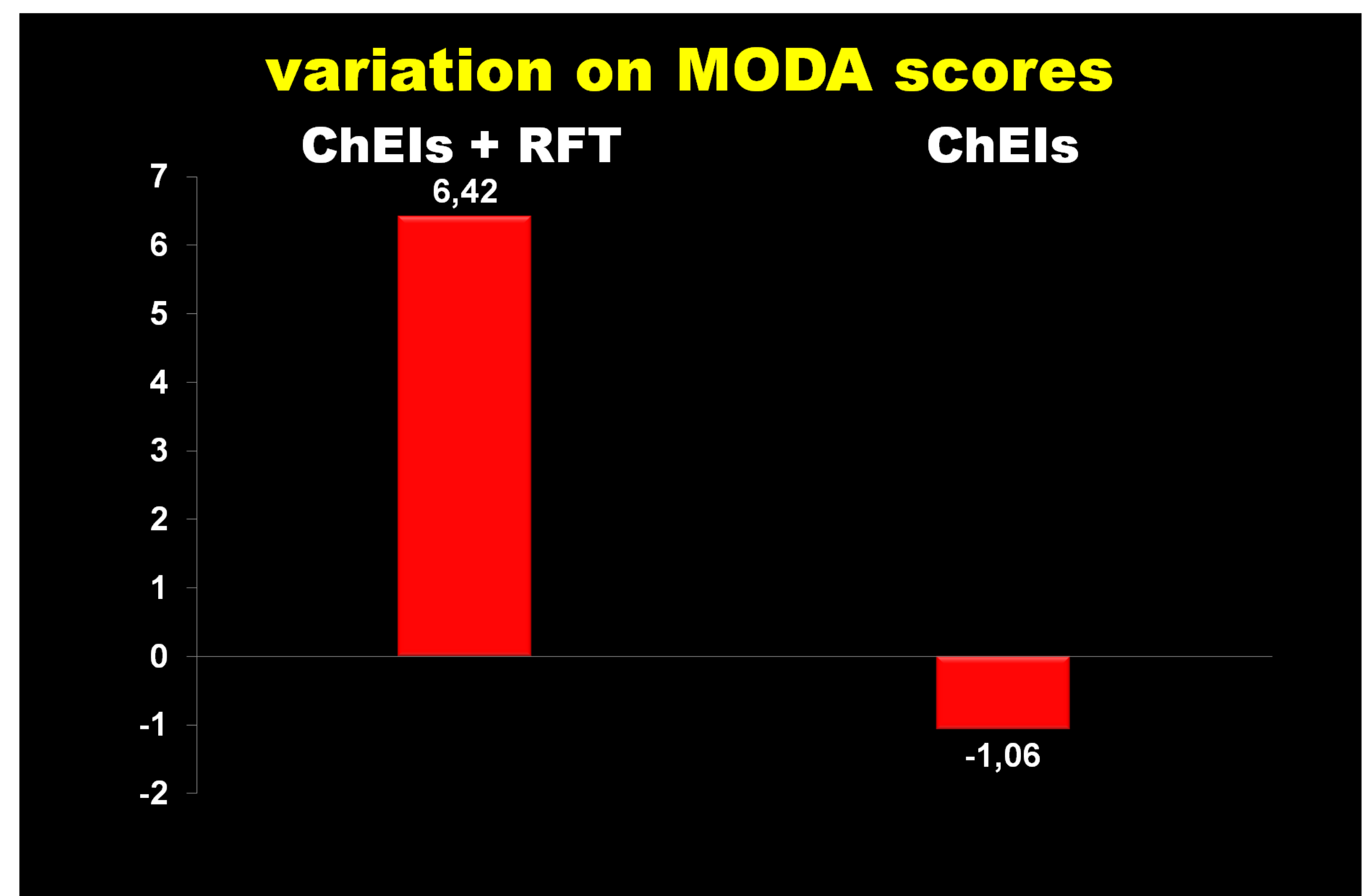
Objective: To evaluate the efficacy of a computer assisted multiple-exemplar relational training (RFT), as add-on non-pharmacological therapy to cholinesterase inhibitors (ChEIs) in patients with mild-to-moderate Alzheimer's disease (AD).

Materials and methods: This was a prospective, randomized, three month, parallel-group study comparing ChEIs + RFT vs ChEIs monotherapy. Participants were exposed to multiple exemplar training in the relational frames of SAME, OPPOSITE, MORE THAN, and LESS THAN across several sessions for three months. Training was conducted for one hour weekly. Cognitive and executive functions were assessed cross-sectionally at baseline, and at the end of training (three months) using respectively MODA, Coloured Progressive and Attentive Matrices.

Results: 27 patients (15, 55,5% female and 12, 44,5% male) were enrolled. Twenty-six patients completed the evaluation. One patient withdraw for loss of compliance. Mean age was 77,88 (± 7,97) years; mean education was 5,22 (±2,79) years. Patients treated with RFT as add-on intervention (n=14) scored better on MODA at study end compared with those who received drug only (n=12). The MODA scores for the group with additional RFT therapy showed a mean improvement of +6,42 points versus baseline where the group in drug monotherapy showed a mean worsening of -1,06 points. The MODA scores for combination differed significantly from baseline (p>0.05) and between-group (p>0.05). Coloured Progressive Matrices scores for combination therapy showed a mean improvement versus baseline of +2 points compared to pharmacological monotherapy that showed a mean worsening of -0,15 points. This increase was not statistically significant. Attentive Matrices scores for combination therapy showed a mean improvement versus baseline of +2,85 points compared with monotherapy that showed a mean worsening of -0,69 points. In the group in association there was a statistically significant difference between the beginning and the end of the treatment (p>0.05), but also compared to the monotherapy treatment (p>0.05).

Discussion: these data seem to suggest that RFT could offer a way to implement interventions to improve general cognitive functioning in AD subjects under ChEI treatment. The results of our study show a positive effect of RFT on cognitive function among patients suffering from AD, by slowing down cognitive decline at the end of the treatment period. No major side effects of ChEIs were reported.

Conclusions: The addition of RFT to the current standard treatments for Alzheimer's disease may represent a way to prolong on time the beneficial effects of cholinergic therapies. Future research are needed to validate these preliminary results.

variation on MODA scores

variation on Coloured Progressive Matrices scores

variation on Attentive Matrices scores

References:
- Cassidy S, Roche B, Hayes SC. A Relational Frame Training   intervention to raise intelligence quotients: a pilot study. The Psychological Record, 2011,61: 173-198
- Hayes SC, Barnes-Holmes D & Roche B (Eds.). Relational   frame theory. A post-Skinnerian account of human language and cognition. 2001. New York: Kluwer Academic