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A comparison of the effects of directive visuomotor intervention versus nondirective supportive intervention in kindergarten and elementary school children

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Introduction - Visuomotor integration (VMI) plays an integral role in child development, being a main performance component of the ability to copy letters legibly, handwriting and academic success. An untreated impairment in VMI may lead to oppositional behavior in school which can, in turn, affect the child's self-esteem and psychological adjustment.

Study objectives - The aim of the present study was to measure the effect of two types of interventions, nondirective supportive intervention (NDSI) and directive visual-motor intervention (DVMI), on improving VMI, psychological adjustment and self-esteem in low socioeconomic status children, in mainstream elementary school and kindergarten.

Methods - A total of 168 poor VMI children of low socioeconomic status attending regular kindergarten or first grade were randomly allocated to receive 12 weeks of DVMI, NDSI, or no treatment. Psychological adjustment, self-esteem, and VMI skills were evaluated before and after the intervention period.

Results - The study findings revealed that In the kindergarten subset, NDSI significantly improved VMI skills compared to DVMI and no treatment. In the first-graders, NDSI and DVMI yielded a similar, significant, improvement in VMI compared to no treatment. There were no significant differences among the NDSI, DVMI, and control groups in improvement in psychological adjustment or self-esteem.

Conclusions - The study suggests that kindergarten children might benefit from the positive and meaningful relationships inherent in NDSI. NDSI could be considered as an appropriate intervention for socioeconomically disadvantaged children with poor visual-motor integration skills. The study, conducted in a socioeconomically disadvantaged population, because of their higher risk of school failure.

Contribution - Evaluating interventions' efficacy is consistent with the evidence-based practice paradigm for occupational therapy services. This study contributes to evidence-based studies exploring the interaction among VMI, psychological adjustment, and self-esteem as well as supports the intervention's knowledge about kindergarten and elementary school children. Early interventions are designed to close the gap in readiness to learn between poor children and their more economically advantaged peers.