

Is cranial mobility affecting school performance and can osteopathic manual treatment (OMT) improve it? Results from a pilot study with children in a regular elementary curriculum.

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Background: Learning abilities are central competencies for child development and are major predictors of adjustment in adulthood. Learning difficulties affect 10 to 16% of the children population. It is commonly suggested in osteopathy that there is a link between birth trauma, cranial mobility and learning problems.

Objectives: This study aims to 1) explore the relation between cranial mobility and academic performances in general children population and 2) document effects of osteopathic manual treatments (OMT) on academic-related parameters.

Methods: Two classes of fourth-graders in a French elementary school were included in this pilot study. Students were assigned to experimental (n=29) or control (n=20) groups. Osteopathic cranial assessment and 15 academic parameters were collected pre- and post-intervention. Groups were compared using t-tests and ANOVA.

Results: At baseline, subgroups with poorer cranial mobility showed lower academic performances in reading (difference 10,2%, $p=0.049$) and in 9 related parameters ($p<0.05$). The OMT group improved on one I.Q. non-verbal sub-test ($p=0.002$) and attention span ($p=0.048$). Empirically, general pattern where OMT appears to reduce the gap between “cranially” blocked and unblocked subgroups in various parameters of academic performances. (e.g. attention span: relative decrease value: 123%, sd (1,16 and 1,11) ; $p=0.019$).

Conclusion: For the first time, an existing relation between cranial mobility and academic performance is empirically documented. This pilot study suggests that various aspects of school performances are improved through OMT.