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### Effect of marine oil extract supplementation on ADHD children and adolescents

This study investigated the effects of a marine oil extract (PCSO-524<sup>®</sup>) on inattention, hyperactivity, mood and cognition in children and adolescents. PCSO-524<sup>®</sup> is a standardised lipid extract of the New Zealand green-lipped mussel containing GLM pat. lipids (50mg) including EPA 7.3mg and DHA 5.5mg; natural mono-unsaturated olive oil 100mg; and vitamin E 0.225mg. PCSO-524<sup>®</sup> is an inflammatory modulator that inhibits the 5'-lipoxygenase and cyclo-oxygenase pathways and decreases concentrations of the pro-inflammatory components. PCSO-524<sup>®</sup> or a matched placebo was administered for 14 weeks to 144 participants (123 males/21 females; mean age 8.7 years) with high hyperactivity and inattention in a randomized, double-blind, placebo-controlled study. The primary outcome was the Conners Parent Rating Scale assessing parental reports of behavioural problems. Secondary outcomes assessed changes in cognition and mood. Repeated measures ANOVA on post hoc subsample analysis indicated significant improvements in hyperactivity ( $p=0.04$ ), attention ( $p=0.02$ ), learning ( $p=0.05$ ) and probability of ADHD ( $p=0.04$ ) with a medium to large average effect size ( $d=0.65$ ) in those children who did not meet criteria for combined hyperactivity and inattention. Furthermore, significant improvements were indicated in a whole sample repeated measures ANCOVA on recognition memory ( $p=0.02$ ,  $d=0.56$ ).

**Conclusions:** The results presented indicate that PCSO-524<sup>®</sup> may be beneficial in reducing levels of hyperactivity and inattention in a population of children with clinical and sub-clinical symptoms of ADHD.

### Biography

Con Stough is Professor of Cognitive Neuroscience and Psychology at Swinburne University of Technology, Australia, Co-Director of the Swinburne Centre for Human Psychopharmacology. Dr. Stough's main interest lies in the area of cognition and how to improve cognition using nutritional and pharmacological methods. He is a Fellow of the American College of Nutrition and is a member of the editorial board of many journals.

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