

# Mindfulness Based Martial Arts Program (MMA)

*FINAL REPORT 2006*

*FOR*

The Provincial Centre of Excellence for Child and Youth Mental Health at CHEO  
Le Centre d'excellence provincial au CHEO en santé mentale des enfants et des ados



## Program Evaluation Grants

**FINAL REPORT TO:**  
THE PROVINCIAL CENTRE OF EXCELLENCE FOR CHILD AND YOUTH MENTAL HEALTH

**Mindfulness Based Martial Arts Program (MMA)  
For Students with Learning Disabilities**

<p><b>Program description</b></p>	<p>The <b>Mindfulness Based Martial Arts Program (MMA)</b> is designed for youth age 12-18 with learning disabilities (LD) and problems in self-control (i.e., problems in managing overall impulsiveness, control of anxiety, excitement, and/or anger). The program consists of 20 weekly, 1½ hour sessions; in addition to short individual meetings with each participant. Groups are limited to 6 participants.</p> <p>There is an <i>outcomes-based</i> focus to the evaluation of the MMA program. Child self-report and parent-rated questionnaires have been used to determine the extent to which the MMA program contributed to improved self-control, better stress management, increased self-awareness, improved self-concept, enhanced problem solving skills, improved adaptability/flexibility and enhanced social skills in youth with LD. The child rated questionnaires include the <i>Youth Self Report</i>, <i>Children’s Depression Inventory</i>, <i>Multidimensional Anxiety Scale for Children</i>, <i>Self Perception Profile for Children</i>, <i>Emotional Quotient Inventory</i> and the <i>Dominic</i> (includes attribution questionnaire created at OISE/University of Toronto). The parent-rated questionnaires consist of the <i>Conners’ Parent Rating Scale</i> and <i>Children’s Behaviour Checklist</i>.</p> <p>The MMA program and evaluation research are occurring in the context of an established research program at <i>Integra</i>, with the overall goals of delineating effective treatments for youth with LD. The pre- and post-group data has been collected for completed groups.</p>
<p><b>Goals and objectives of the specific evaluation activities implemented</b></p>	<p>The primary objective of this evaluation activity is to investigate whether a therapeutic mixed martial arts intervention could alleviate symptoms of decreased self-control (i.e., reactive), low self-confidence, rigidity, poor problem solving and social skills in youth with LD. The expected outcome of the evaluation activity is to provide evidence that the MMA program contributes to: 1) <b>Increased self-confidence</b>: It is hypothesized that the program may increase self-confidence and self-esteem in youth with LD; 2) <b>Increased self-control</b>: The program is expected to help participants slow down reaction times and to use self-calming strategies in order to be more reflective and less reactive; 3) <b>Increased ability to adapt to change</b>: The program is expected to improve self-calming strategies in order to increase flexibility and tolerance for change. Coping strategies</p>

	<p>provided participants with strategies for coping with specific challenging situations; 4) <b>Increased problem solving ability:</b> Systematic analysis of problem situations is expected to help participants to understand 'cause and effect' and how thoughts and feelings are causally connected to behaviours; 5) <b>Increased self-awareness:</b> Mindfulness is expected to provide a systematic framework for learning to identify thoughts, feelings, and behaviour; 6) <b>Improved social interaction:</b> MMA provides rich opportunities for social referencing therefore it is hypothesized to enhance social skills. Youth are also given many opportunities to interact appropriately in the group and are given guidance by the leader about how to do so; and 7) <b>Self-defense skills:</b> Martial arts training is expected to provide participants with concrete self-defense skills which may contribute to a confident self-image and possibly diminish victimization.</p>
<p><b>Program evaluation activity results and outcomes</b></p>	<p>The sample consisted of 18 boys with a mean age of 13.9 (ages ranged from 12-18). Participants were diagnosed with a variety of subtypes of learning disability. Of the 18 participants, 6 had language based Learning Disabilities; 4 had Nonverbal Learning Disabilities; 6 had mixed learning disabilities and 2 had the diagnosis of Gifted with Learning Disabilities. These children also had comorbid diagnoses of ADHD (Combined) (7), Aspergers Disorder (1), Oppositional Defiant Disorder (1) and Obsessive Compulsive Disorder (2).</p> <p>Self report measures were administered to both parents and participants in the group. The following were the measures used in the study:</p> <p><u>Parent-report</u></p> <ul style="list-style-type: none"> <li>- Conner's Parent Rating Scale</li> <li>- Children's Behaviour Checklist</li> </ul> <p><u>Self- Report measures(children)</u></p> <ul style="list-style-type: none"> <li>- Youth Self-Report</li> <li>- Children's' Depression Inventory</li> <li>- Multidimensional Anxiety Scale for Children</li> <li>- Self Perception Profile for Children</li> <li>- Emotional Quotient Inventory (currently under analysis)</li> <li>- Dominic (currently under analysis)</li> </ul> <p>Both parents and children were administered questionnaires before (pre) and after (post) the MMA program to gauge depression, anxiety, self regulation and behaviour.</p>

	<p>An analysis of the <b>pretest</b> scores using paired t-test revealed that <i>parents</i> reported elevated (one standard deviation above mean) levels of withdrawal and somatic complaints (internalizing), oppositional and delinquent behavior (externalizing) in their children. They also indicated that their children displayed clinically elevated levels of anxiety/depression (internalizing), social problems, and cognitive problems of inattention (externalizing). The <i>children's</i> self-report responses established elevated levels of anxiety (internalizing), social problems, and cognitive problems of inattention (externalizing).</p> <p>The results of this pilot study revealed that there were significant gains evident in the children after their participation in the Mindfulness Based Mixed Martial Arts group. At <b>post-test</b> <i>parents</i> reported a significant decrease in their children's cognitive problems, thought problems, impulsivity and hyperactivity. Other decreases approaching significance were emotional lability, withdrawal, somatic complaints, anxious/depressed and attention problems in the children. The <i>children</i> themselves reported a significant increase in effectiveness and positive self esteem, and a decrease in externalizing problems. However, there was no significant difference reported in the anxiety level of the children from pre- to post-test. A client satisfaction measure reported that the children were satisfied with the procedures, the applicability of mediation techniques and the martial components. They reported interest in continuing the program.</p>
<p><b>How this grant has built capacity for evaluation activities within the program and the agency and how these activities will be maintained in the future</b></p>	<p>This grant has fostered the capacity for program evaluation both within the MMA project and Integra. It has served to enhance the ongoing development of a manualized treatment intervention model. By identifying intervention factors that influence the adjustment of students with LD, this research contributes to expansion of knowledge and provides guidance to mental health professionals, parents and policymakers.</p> <p>A number of activities, in the pursuit of expanding knowledge around LD, have taken place and will continue to inform research and development at Integra and beyond. They are as follows:</p> <ul style="list-style-type: none"> <li>➤ Advancement of knowledge and expertise in program evaluation of Integra staff for ongoing and future research within the agency</li> <li>➤ Evaluation and continuous revision of the Integra's MMA</li> </ul>

	<p>program</p> <ul style="list-style-type: none"> <li>➤ Creation of a PowerPoint presentation describing all aspects of the project</li> </ul>
<p><b>Knowledge exchange activities that have assisted with the communication of findings at present or in the future</b></p>	<ul style="list-style-type: none"> <li>➤ Critical to our research objectives are knowledge exchange and dissemination of project findings to policy makers, teachers, school administrators, parents and others who work directly with children. We are in the beginning stages of making a number of strides toward dissemination of findings.</li> <li>➤ Results, once obtained, will be posted to the Integra website and printed in the Integra Newsletter, Among Friends</li> <li>➤ Information regarding program delivery and results will be shared with our collaborative partners in the learning disability community (i.e. Learning Disabilities Association of Ontario; Ontario Institute for Studies in Education/UT; Hospital for Sick Children)</li> </ul>