Background

Learning Disabilities (LD) are neurobiological disorders affecting the ability to acquire, organize, retain, understand and use information. Attention-Deficit/Hyperactivity Disorder (ADHD), characterized by cognitive impairments and developmentally inappropriate or excessive behavior, frequently co-occurs with LD. Students with LD and ADHD often experience academic difficulties, social problems, and mental health issues. Traditional psychosocial treatments are often viewed as stigmatizing for adolescents, and pharmacological treatments are associated with negative side effects for some youth. There is a need for alternative interventions targeting the behavioural, social and mental health difficulties of youth with LD and ADHD.

A growing body of evidence supports the use of mindfulness meditation as a complementary or alternative treatment for a variety of health and mental health issues in adults. Mindfulness is the non-evaluative, present-centered awareness that results from the deliberate focusing and refocusing of attention on sensations, thoughts and feelings as they arise on a moment-by-moment basis. Recent research suggests that mindfulness training improves attention, executive control and psychological well-being in children and adolescents.

Mindfulness Arts Program Description

MMA is a 22-week manualized program designed to increase self-awareness, self-control, adaptability, and social skills in adolescents with LD. Each session combines elements of mindfulness, cognitive behavioral therapy (CBT), and mixed martial arts. Concepts and skills are introduced gradually through didactic teaching, modeling, role-playing and scaffolding by the therapist instructor. Progress is monitored by weekly logs and individual meetings with youth, parents and the therapist instructor. Effort and achievement of program goals are rewarded with points. When students reach predetermined point levels, they are promoted to the next belt level.

Objective

To investigate whether the MMA program is an effective intervention for the behavioural, social, and mental health difficulties of adolescents with LD and co-occurring difficulties.

Methods

Participants

N = 65 (33 MMA, 32 WL) Age = 12-18 years (M=13.84, SD=1.33) Gender = male

Measures

Wechsler Abbreviated Scale of Intelligence (WASI)
Woodcock-Johnson Tests of Academic Achievement-3rd Edition (WJ-III)
Conners’ Parent Rating Scales-Revised (CPRS)
Behavior Rating Inventory of Executive Function – Parent Form (BRIEF)
Child Behaviour Checklist (CBCL)
Youth Self-Report (YSR)
Modified Mindful Attention Awareness Scale (MMAAS)

Procedure

Participants with LD were recruited from Integra, a children’s mental health agency serving children and adolescents with LD in Toronto, Ontario. Participants were assigned to the MMA group or the waitlist control (WL) group. Data was collected from participants and their parents at pre-test, post-test, and 3-month follow-up (follow-up conducted with MMA group only).

Data Analyses

All analyses were conducted on the subscale T-scores of each measure, with the exception of the MMAAS, which yielded a total average score rather than T-scores. Independent t-tests were conducted to explore group differences on baseline scores at Time 1. Differences in change on outcome variables after the intervention period were assessed using a 2 (group: MMA vs. WL) by 2 (time: Pre-test vs. post-test) repeated measures analysis of variance (ANOVA).

Results

Unless otherwise noted, there were no differences in baseline scores at pre-test. Only significant Group or Group x Time interaction effects are reported below.

Total Sample

Although there were several significant time effects, indicating changes in both groups over the intervention period, no significant Group or Group x Time interactions were found for any of the measures.

Subgroup: ADHD Diagnosis

A total of 14 MMA and 11 WL participants had comorbid LD and ADHD diagnoses. A significant Group x Time interaction effect was observed for CBCL, externalizing problems (F(1,19) = 5.97, p<.05, partial η^2 = .24), oppositional defiant problems (F(1,19) = 7.41, p<.05, partial η^2 = .28), and conduct problems (F(1,19) = 9.91, p<.01, partial η^2 = .34). No significant Group or Group x Time effects were found on the BRIEF or YSR.

Discussion

Mindfulness training shows promise for the management of behavioural, emotional and social difficulties experienced by youth with LD. The group format of MMA is cost-effective for agencies with large client loads and extensive waiting lists. Since results of the current study suggest that MMA has different impacts for clients with different clinical profiles, children should be screened for attention problems and anxiety prior to enrolment in MMA so agencies can offer their clients interventions with the most potential for impact.

References