

Research Findings on the Organizational Skills Training Program

A Summary of an 11-Year Research Program on Teaching
Students Organization, Time Management, and Planning

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Background

In 2000, Drs. Howard Abikoff and Richard Gallagher of the Child Study Center at NYU Langone Medical Center began a research program to create an empirically-based intervention for students struggling with skills in organization, time management, and planning (OTMP). The intervention targeted students with attention-deficit/hyperactivity disorder (ADHD), a group with higher incidence and greater severity of OTMP skills deficits than the general student population. Prior to this time, no scientifically grounded interventions specifically designed to address poor organizational skills existed, despite the clear impact of these deficits on academic functioning. In addition, no empirically-derived measurement tools existed to assess children's organizational skills, limiting the ability to identify students in need of help in this area or to evaluate the effectiveness of OTMP interventions. Given these gaps in the literature, Abikoff and Gallagher designed their research program to address three goals:

1. Create a useful and valid ***measure of children's OTMP functioning.***
2. Design an ***OTMP program*** to help students with ADHD who were identified as struggling with OTMP skills.
3. Evaluate the ***program's effectiveness.***

The National Institute of Mental Health awarded Abikoff and Gallagher an R21 Treatment Development grant for the development of an OTMP measure and intervention, as well as a pilot investigation of the intervention's effectiveness.

The Children's Organizational Skills Scales

The first phase of research involved the development of the Children's Organizational Skills Scales (COSS), a tool to assess organizational skills in children (Abikoff & Gallagher, 2009). Three versions of the scale were created:

- a teacher-rated version
- a parent-rated version
- a version in which students self-evaluated their organizational skills

A pool of assessment items were constructed with inputs from clinicians, parents, and teachers. These items were then administered to a validation sample of teachers, parents, and students in the New York metropolitan area to select final items for the scale. More than 900 children were rated by teachers in the validation study, and an additional 137 were rated by parents and the children themselves. Statistical analysis of the teacher-rated data revealed three key areas of organizational functioning in children:

- **Organized behaviors:** the efficient use of organizational tools and routines (e.g., "This student makes lists, schedules, and reminders to keep him/herself organized.")
- **Lapses in memory and materials management:** the ability to remember assignments and keep track of materials needed for assignments (e.g., "This student loses things at school.")
- **Task planning:** effective time management and the ability to create and execute plans (e.g., "When this student has a big project to do, he/she doesn't know where to begin.")

The final versions of the scales were then administered to a nationally representative sample of 480 teachers, 480 parents, and 480 students to confirm the scales' validity and to establish norms to which individual students' scores could be compared. The COSS scales were found to be effective in identifying children with organizational skills deficits and indicating specific profiles of organizational strengths and weaknesses for a given child (Abikoff & Gallagher, 2009). [The OTMP Skills Inventory, included with the Premier InCommand curriculum system, is informed by clinical and research observations of children's organizational functioning at home and at school.]

Program Description

The second phase of research was created to build upon the findings from the COSS research by developing and pilot testing an intervention to address OTMP deficits. Abikoff and Gallagher created the **Organizational Skills Training (OST) program**—a 20-session, twice-weekly, clinic-based program, which focused on building organizational skills in four areas:

- **Tracking Assignments:** Teaching students a system for consistently recording assignments and due dates in a specially designed planner.
- **Managing Materials:** Providing students with methods for storing and organizing their papers and materials through the use of an accordion binder system, materials checklists included in their planner, systems for organizing their desks, and by developing prominently visible checklists for backpacks and other tools for material transfer, as well as other related strategies.
- **Time Management:** Helping students become more aware of their use of time and how to plan ahead to structure their time effectively through the use of an afternoon scheduling component in their planners; helping students improve their time estimation skills and their awareness of how much time they need to complete tasks; teaching students to work efficiently by minimizing distractions in their work spaces.
- **Task Planning:** Showing students how to break larger projects and goals into steps and create schedules for task completion through the use of task-planning pages in their planners.

The OST program taught these skills through the use of a **“glitch” analogy**: Students were taught that each of these problem areas were the result of brain “glitches,” which were depicted as a set of mischievous characters who enjoyed watching students falter as a result of organizational problems. This was intended to help motivate students as part of an overall strategy to keep the program lighthearted and fun. Importantly, the “glitches” were also meant to help depersonalize the problems associated with organization, as anecdotal information gathered from clinicians suggested that many students with OTMP deficits felt deflated after years of being reprimanded for their organizational failures without receiving adequate help to correct them.

Each new organizational skill was taught using the same basic methodology:

1. Discussion of skill:
 - The new skill was defined and explained
 - A rationale for the importance of the skill was given
 - The various settings where the skill may be applied were discussed
2. Demonstration of skill
3. Skills practice
 - Guided practice was conducted and feedback was given
 - The skill was practiced repeatedly
 - The student was taught to identify situational cues for when the skill should be used

Pilot Study

A total of 20 third- to fifth-grade students with ADHD and demonstrable OTMP deficits, based on elevated scores on the COSS, were selected to participate in pilot testing of the program. Each student was evaluated prior to beginning the program and again at the end of treatment. From pre- to post-treatment, **significant improvements were found for:**

- **Teacher** ratings of students' organizational skills on the COSS
- **Parent** ratings of students' organizational skills on the COSS
- **Parent** ratings of students' homework problems on the Homework Problems Checklist
- **Student** performance on an academic-planning task

In addition, **data indicated that parents and teachers found the treatment helpful and feasible.** No families dropped out of the program, and all attended at least 17 of the 20 sessions. Ratings from satisfaction scales showed that both parents and teachers were satisfied with the program.

Full-Scale Clinical Trial

Based on the success of the pilot study, the National Institute of Mental Health awarded funding for a large-scale clinical trial of the program. The study was conducted as a multi-site trial through collaboration between NYU and Duke University. Students were selected for inclusion in the study based on a clinical evaluation that established a diagnosis of ADHD, as well as COSS scores indicating significantly elevated problems with organization. These students were randomly assigned to either receive the OST program or to be part of a waitlist group, which did not receive treatment during the study period. Both groups were given a battery of assessments evaluating organizational skills and related outcomes prior to the treatment phase and again at the conclusion of the treatment phase.

The trial also included a third group, in which students were given an alternate treatment. This treatment involved parent and teacher training in behavioral techniques, and also showed evidence of efficacy. However, as the alternate treatment did not include student instruction in organizational skills and employed parents as the primary agents of change, it has less relevance in a school setting for directly teaching students, and so is not described in detail here.

Participants

The participants included 97, third- to fifth-grade students with ADHD and OTMP impairments. In all, 64 students were assigned to the treatment group and 33 were assigned to the waitlist. Of the students, 62% of the participants were male, and the average age was 9.1 years. The majority of the participants were Caucasian (69.1%), with 15.5% identifying as African-American, 16.5% as Hispanic, 2.1% as Asian, 3.1% as Mixed, and 10.3% as Other. Thirty-five students (36.1%) were taking medication for ADHD during the study period.

Hypotheses

The main study hypothesis was that students receiving the OST intervention would show greater improvement than their peers in the waitlist group in OTMP skills, as assessed by two primary outcome measures: the *Parent COSS* and the *Teacher COSS*.

In addition, it was hypothesized that students in the OST intervention group would show greater improvement in self-ratings of organizational skills on the *Child COSS* and in other domains of functioning adversely affected by OTMP problems. These included:

- Measures of academic functioning:

Academic Performance Rating Scale (DuPaul and Rapport, 1991): a teacher-rated measure of academic success, impulse control, and academic productivity.

Academic Standing: teacher rating of students' academic standing relative to what was expected of them at that point in the school year.

Homework Problems Checklist (Anesko, Schoiock, Ramirez, and Levine, 1987): a parent-rated measure of problems students have with completing homework.

- Measures of family functioning:

Family Environment Scale Family Relationship Index (Moos and Moos, 2002): A parent-rated measure of family conflict, cohesion, and expressiveness

Parent COSS Conflict Scores: A subscale of the Parent COSS assessing the level of conflict in the family surrounding OTMP issues

Results

As predicted, children in the OST treatment group showed significantly greater improvements than those in the waitlist group on the two primary outcome measures, the Parent COSS and the Teacher COSS. Both parents and teachers reported significantly more change in the organizational functioning of children who took part in the program. These improvements were seen not only on the total Parent and Teacher COSS scores, but also on all Parent and Teacher COSS subscales, which measured specific organizational skills. In addition, students in the OST program improved significantly more than waitlist students on:

- their self-ratings of their organizational skills on the Child COSS
- teacher ratings of students' academic functioning on the Academic Performance Rating Scale
- teacher ratings of academic standing
- parent ratings of homework problems on the Homework Problem Checklist
- parent ratings of family relationship on the Family Environment Scale
- parent ratings of family conflict around OTMP issues on the Parent COSS

As in the pilot study, data indicated that the program was acceptable to parents and teachers. More than 95% of families completed treatment, and parents and teachers reported that they were satisfied with the program.

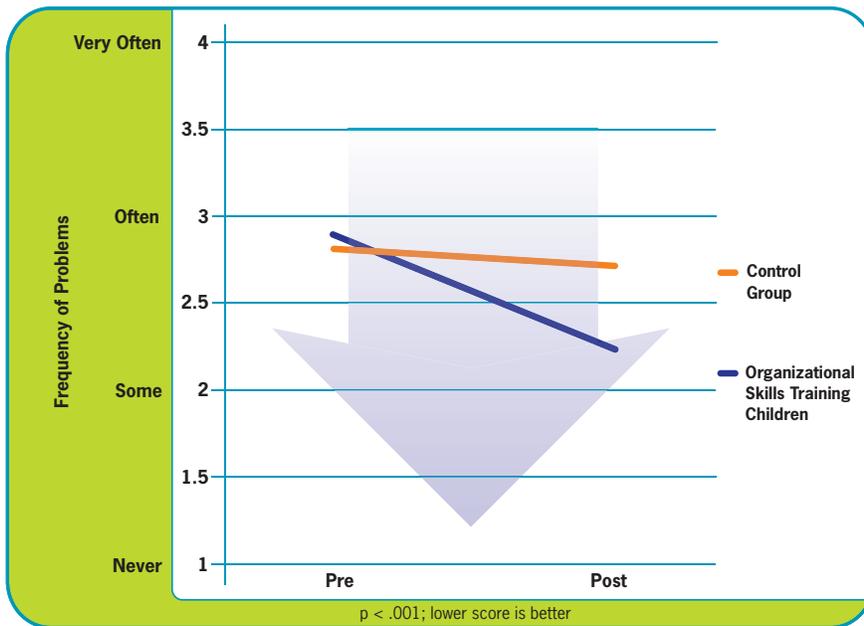
[See Results Tables at End of Report]

Conclusions

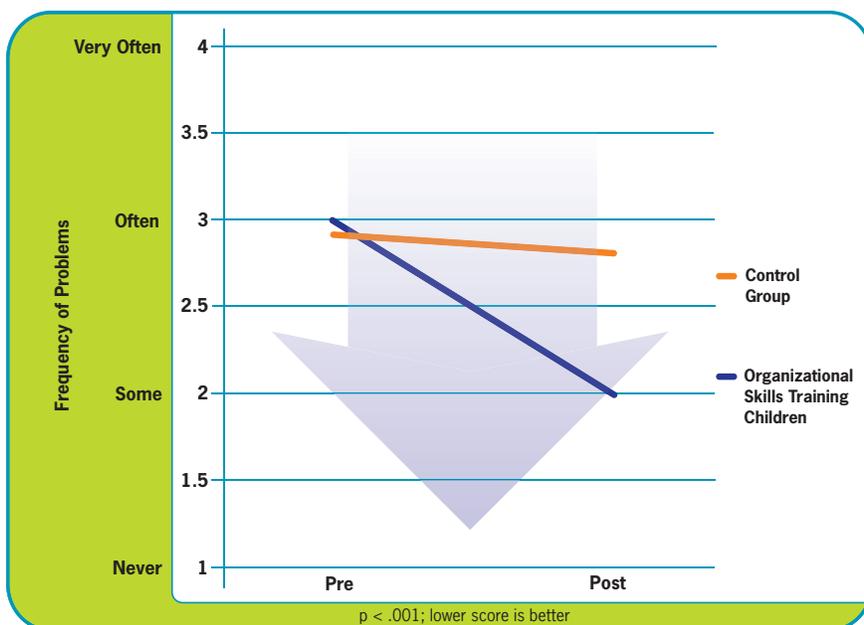
The full-scale clinical trial provided strong evidence for **the efficacy of the OST program in improving the organizational skills of students with OTMP deficits.** Impressively, this was shown in a group of students who were most likely to have significant impairment in organization—those with ADHD. The organizational improvements were confirmed by teacher, parent, and child ratings, and were accompanied by significant changes in academic outcomes, a reduction in homework problems, and improved family relations. The demands of the program were found to be acceptable to parents and teachers. Taken together, these findings suggest that the OST program is an effective and usable treatment for students with ADHD and significant OTMP impairments, which not only impacts organizational functioning, but translates to improvements in academics, as well.

The OST Program provided the foundation for the InCommand™ curriculum program from Premier, a Division of School Specialty. Informed by robust research findings, InCommand offers a system for developing all students' skills in organization, time management, and planning; while InCommand Pro provides additional support for students who require more intensive instruction and intervention.

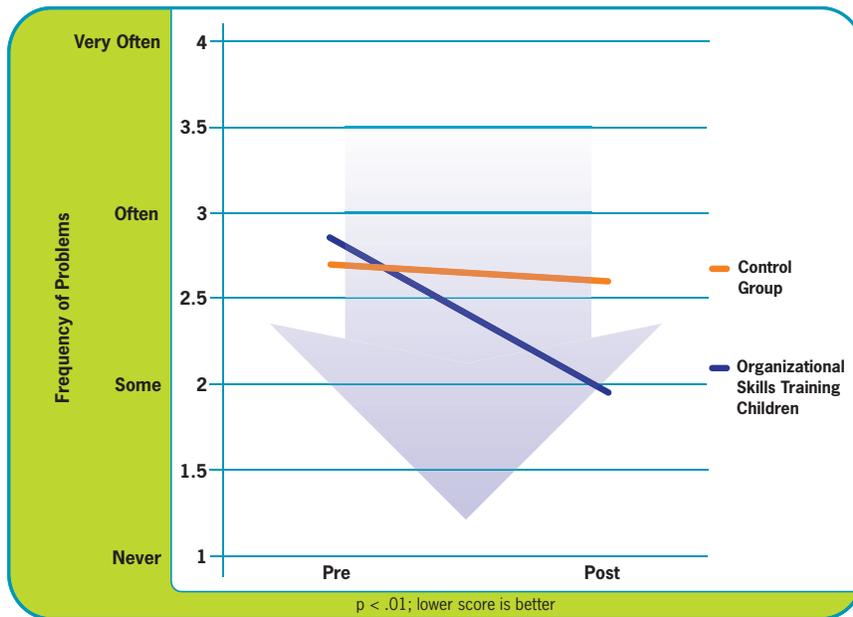
Teacher COSS



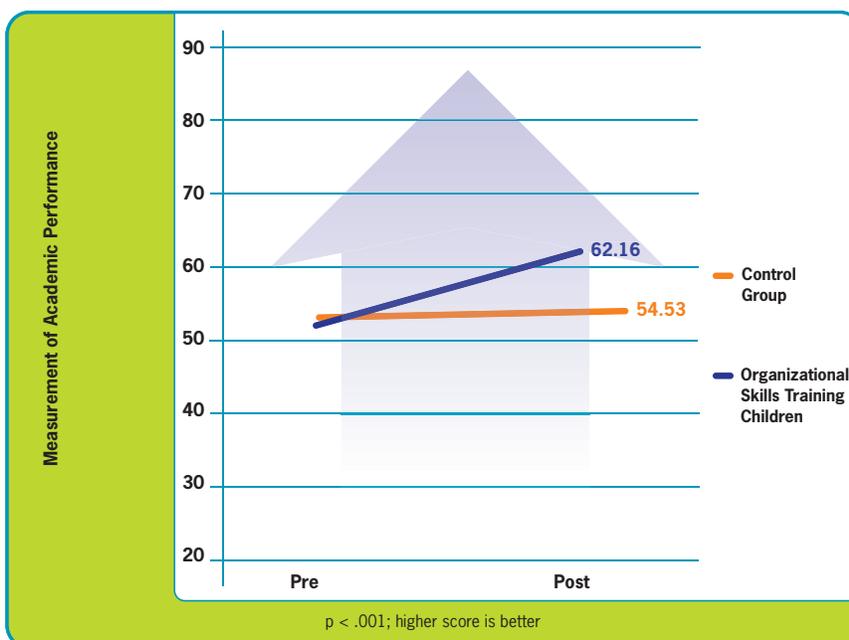
Parent COSS



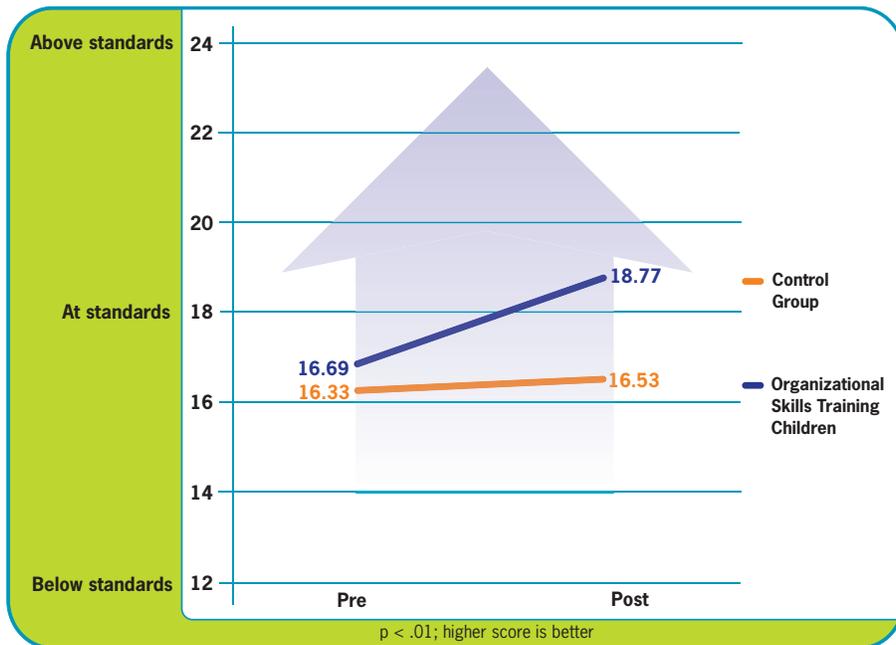
Child COSS



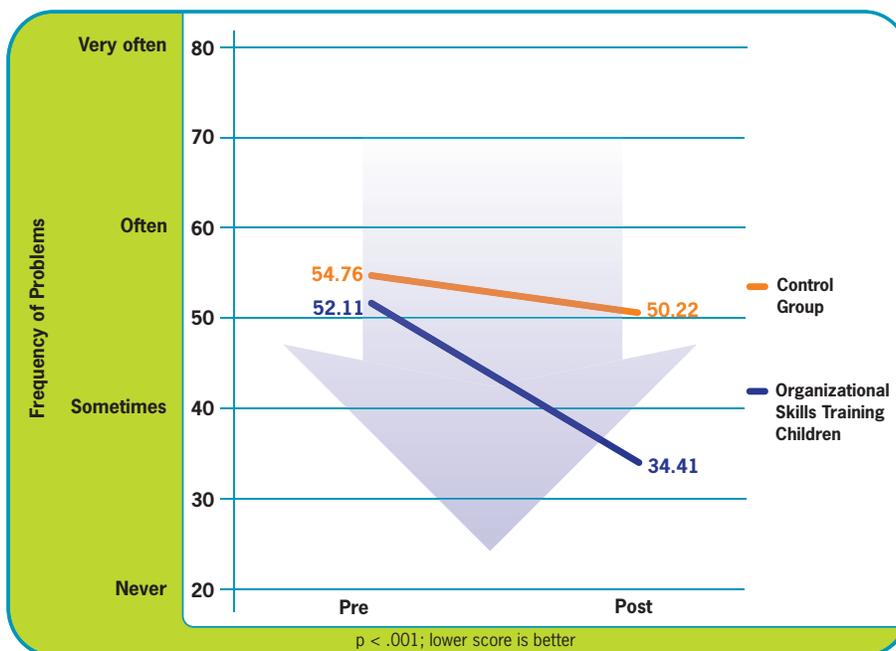
Academic Performance Rating Scale



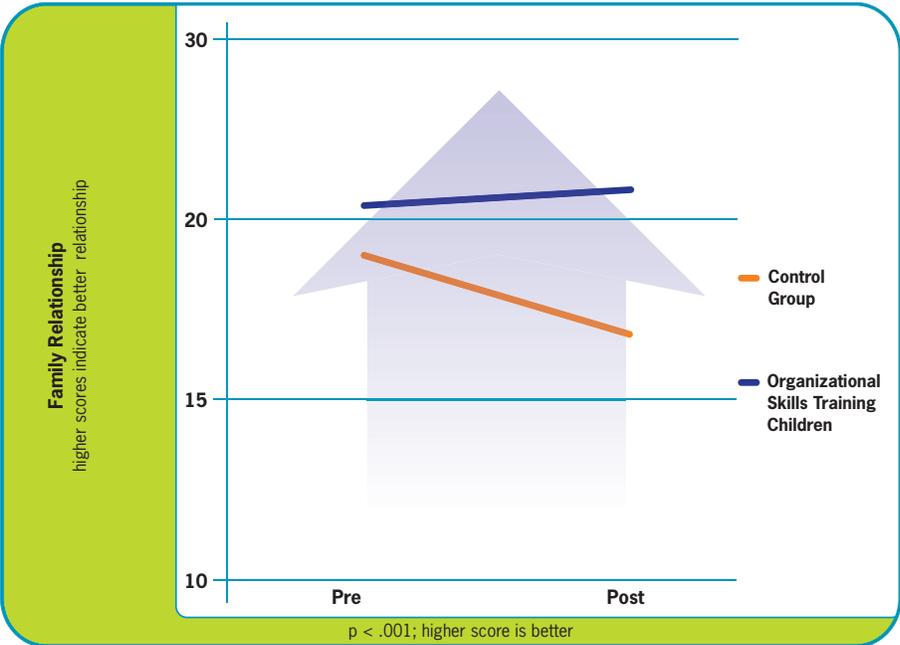
Academic Standing



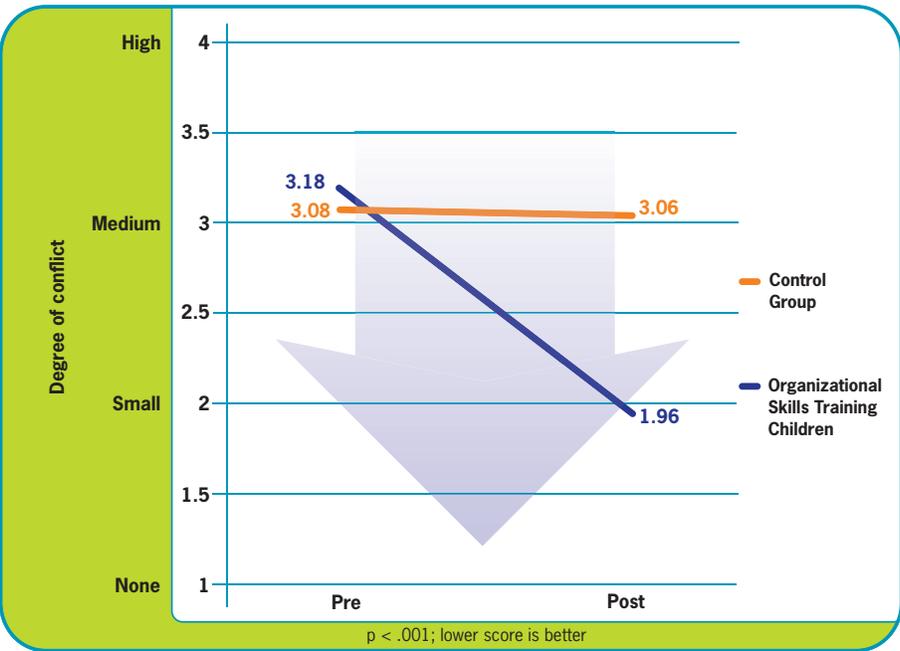
Homework Problems Checklist



Family Environment Scale



Parent COSS - Conflict Score



Additional Investigation: Pilot Study with Middle School Students

Drs. Abikoff and Gallagher also evaluated the impact of the OST program with middle school students who had a history of attention control problems. In this unpublished research, trial runs of the OST treatment were conducted with small groups of students in their school setting. The research development process involved four iterations of the OST program treatment conducted over three school-years. Over 40 children were presented with a version of the treatment—with the researchers modifying and improving the approach based upon feedback, analysis of participation, and analysis of impact with each new iteration.

The final version of the middle school OST program was pilot tested with 27 students who showed high levels of attention control problems and high levels of deficits in OTMP behaviors. Pilot results indicated that the program had positive effect on OTMP skills, reductions in homework problems, and improvements in academic standing

The background research and pilot of the middle school OST program provided these important indications:

- Confirmed the foundations of OST as sound and that the strategies can alter the generally negative trajectory of students with attention control problems and deficits in organization, time management, and planning, these include:
 - Students will attend a program that provides them support and practical instruction rather than one that scolds and blames—the Glitch analogy is helpful.
 - Direct instruction and practice builds the students’ skills and transfers to behavior changes that can be observed by parents and teachers.
 - A coordinated system with students, parents, and teachers is acceptable and satisfying to parents and teachers when working on a problem that has been persistent and has led to weak achievement and productivity.
- Acceptability of extending the OST program to older students.
- Feasibility of adapting the program for small groups and delivery in a school setting.
- Modifications of OST for middle school showed promise in improving OTMP skills and associated difficulties in homework completion, academic standing, and, possibly, family conflict.

Implications for the InCommand Program are several:

- The principles and practices developed in OST can be used with older students with small modifications to meet their developmental needs.
- Group instruction and practice of the tools and routines developed in OST and adapted in the InCommand Program seems viable and has a positive effect.
- The tools and routines used in tracking assignments, in managing materials, in addressing time management, and in task planning can be modified and used with older students who have to meet the challenges of working with multiple subjects and multiple teachers.
- Older students do find mature modifications of the Glitch analogy acceptable and useful in thinking about their challenges.
- The promising middle school OST pilot results are consistent with the results of the full clinical trial of the OST program at grades 3-5.

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