

The Effectiveness of Terri Hirtel's Self-Monitoring Program on Improving the Attention of the Students with Attention Deficit/Hyperactivity Disorder (ADHD)

Nasim Baheri Eslami¹, Mir Mahmoud Mirnasab¹, Ayyoub Malek² & Shahrokh Amiri²

¹Department of Education, Faculty of Education and Psychology, University of Tabriz, Tabriz, Iran

²Research Center of Psychiatry and Behavioral Sciences, Tabriz University of Medical Sciences, Tabriz, Iran

Correspondence: Mir Mahmoud Mirnasab, Department of Education, Faculty of Education and Psychology, University of Tabriz, Tabriz, Iran. Tel: 98-914-301-8676. E-mail: mirnasab2006@gmail.com

Received: June 13, 2016

Accepted: July 11, 2016

Online Published: August 1, 2016

doi:10.5539/ijps.v8n3p111

URL: <http://dx.doi.org/10.5539/ijps.v8n3p111>

Abstract

Introduction: This study aimed to examine Terri Hirtel's Self-monitoring Program on improving the attention of four primary school students with Attention Deficit/Hyperactivity Disorder (ADHD).

Materials and Methods: Single subject multiple-baseline design (ABA) across participants was utilized. The participants were observed along the baseline phase and the percentage of their target behaviors was accurately recorded. After the baseline, the students were trained by Terri Hirtel's Self-monitoring program (called *shiny light bulb method*) for 12 sessions.

Results: Level and trend analysis showed that the data points were placed at a level lower than the baseline for all the participants at intervention phase. That is, manifestation of off-task behaviors of the students in this phase decreased compared to the non-intervention phase (baseline); However, therapeutic effects discontinued and reduced at follow-up phase.

Conclusion: Findings supported the effectiveness of self-monitoring program as a therapeutic cognitive-behavioral technique. The Study implications are discussed for applying this technique in schools and using it along with other treatments.

Keywords: ADHD, attention, self-monitoring, single subject study

1. Introduction

ADHD is one of the psychiatric disorders, which appears during childhood, and its symptoms are continued till adolescence and adulthood in a high percentage. The disorder was recognized as the most common neurobehavioral disorder during childhood (Biederman & Faraone, 2005; Kendall & Comer, 2010; Barkley, DuPaul, & McMurray, 1990). Due to its relatively high importance and prevalence (3-5 percent), medication and psychological treatments were administered for the disorder and extensive studies were carried out on the effectiveness of these psychotherapeutic techniques (Langberg et al., 2010; Nelson, Benner, & Mooney, 2013).

Behavior therapy—as an empirically supported treatment—is one of the psychological therapy components for treating ADHD (Nelson & Israel, 2003; Pelham et al., 2000; Pelham & Gnagy, 1999; Wimet & Laustsen, 2003), which is often used along with medication (Musten, 1996; Pearson et al., 2004; Orgill & Serfontein, 1996). Different types of CBT strategies were also used in addition to behavior therapy for ADHD treatment (Grave & Bilisett, 2004; Southam-Gerow & Kendall, 2000; Whalen, Henker, & Hinshaw, 1985; Kendall & Panichelli-mindel, 1995).

Problem solving, cognitive restructuring, self-regulation, self-monitoring, relaxation training, and modeling are among the cognitive behavioral treatments for ADHD (Goldstein S. & Goldstein M., 1998; Dobson, 2009; Moore & Hughes, 1988; Shimabukuro, 1999).

Self-monitoring was used as one of the cognitive-behavioral therapy strategies for ADHD. Self-monitoring is a method in which an individual assesses his/her behavior regularly and changes his/her overt behavior through studying and organizing his/her mental events. Such a behavior encourages an individual to assume further

responsibilities for his/her different behaviors (Harris, 1986; Neef, Bicard, & Endo, 2001; Dush, Hirt, & Schroeder, 1989; O'Leary & Dubey, 1979).

Different studies assessed self-monitoring effectiveness. Some studies showed that the self-monitoring was an effective program for improving performance, educational accuracy, and increasing attention span for ADHD students (Barkley, 2002; Hong, 2008; DuPaul, Gormley, & Lacey, 2014; Watson et al., 2015; Stasolla, Perilli, & Damiani, 2014; Nelson, Benner, & Bohaty, 2014; Harrison, Thompson, & Vannest, 2009; Harris et al., 2005).

Another important study on the role of self-monitoring in managing hyperactive children proved the effectiveness of this method in homework more than before. In this study, the student follows up their attention through controlling attention by themselves, determining a specific time, and presenting program report to their teachers and receives daily rewards (DuPaul, 2014; Dart et al., 2012).

Some meta-analytic studies provided evidence on the effect of self-monitoring on ADHD symptoms. Turchiano (Turchiano, 2000) conducted a meta-analytic study on the effectiveness of behavioral and cognitive therapies for the children and adolescents with ADHD and impulsive disorders. This meta-analytic study considered 83 studies published during 30 years, and effect sizes of cognitive, behavioral therapies and other therapies were calculated as single and combined. Study results showed that cognitive therapies and the other therapies even were more effective than lack of therapies. The intervention, which employed some forms of practice training, offered a greater mean effect size in the studies conducted on impulsivity. Moreover, findings of this meta-analytic study showed a greater mean effect size for positive reinforcement techniques regardless of therapy plan. Although study results showed that cognitive therapy is effective, it expresses that its effects are temporary or short term. Therefore, it is necessary to continue the therapy for effectiveness of the case.

Despite the earlier studies (Arnold et al., 2015; Barkley, 2010; Shapiro & Kratochwill, 2003; Reid, Trout, & Schartz, 2005; Purdie, Hattie, & Carroll, 2002; Binder, Dixon, & Ghezzi, 2000) on the effect of self-monitoring programs on ADHD behaviors, there are still insufficient studies in other fields. The earlier studies used different self-monitoring programs and Terri Hiltel's Programs were not assessed scientifically. In addition, the earlier studies were often group studies and there are limited single subject studies in this field. Therefore, the main goal of this study is to examine the effect of Terri Hiltel's Self-monitoring Program on improving attentive behaviors in ADHD students.

2. Materials and Methods

2.1 Participants

Four primary school students who were diagnosed with ADHD by a Child and Adolescent Psychiatrist (based on the primary clinical interview) participated in the study.

Participant 1 was an 8-year old student called Ali, who was in grade one of primary school. According to the DSM-IV diagnosis criteria, he had the predominantly inattentive subtype of ADHD. Parents' reports on ADHD Rating Scales also confirmed these problems. The students' school and academic records showed his appropriate performance in many educational fields such as reading, spelling, and mathematics. It should be noted that his disorder was comorbid with ODD and his parents did not agree to take medication for him.

Participant 2 was a 10-year old student, who was the first child of the family studying in grade three of a public school. The psychiatrist clinical diagnosis combined with ADHD Rating scale result confirmed this participant as the inattentive subtype. The study of educational status, repeated observations of the psychologist, and the history of referring to a learning disabilities center, proved his LD learning disorder on reading and mathematics. He was not obedient as far as communication was concerned, but he showed a positive response to reinforcement and reward through which his behavior was controlled.

Participant 3 was a 7-year old student called Mohammad Reza, who was in grade one of primary school. He has been referred to the LD center by his school. His educational status, school report, and a LD center confirmed considerable problems in reading, writing, and mathematics. He was diagnosed with the combined subtype of ADHD based on scales and a psychiatrist clinical diagnosis, but he had no medication.

Participant 4 was a 7-year old student called Mostafa, who was in grade one of primary school. According to the clinical diagnosis of a child psychiatrist based on DSM-IV criteria, he was diagnosed with the combined subtype of ADHD. It was difficult to control him to do the school activities and homework, which needed attention. The student's academic record and school counselor reports revealed that he had also problems in writing, reading and mathematics.

Students' IQs were reported to be at normal levels according to the results of entrance screening tests in primary schools. It should be noted that none of the participants took medicines during the study.

2.2 Tools

This study used a diagnosis interview based on questionnaire of Kiddie Schedule for Affective, Disorders and Schizophrenia—Present & lifetime: version (K-SADS-PL) and ADHD Parent Rating Scale Form. The K-SADS-PL questionnaire is a semi-structured diagnosis interview for examining psychological disorders in children and adolescents (within the age group of 6-18), which was standardized in Iran and its validity and reliability were studied. As a reliable tool, it had a sufficient test-retest reliability and inter-rater reliability (Ghanizadeh, Mohammadi, & Yazdanshenas, 2006). It was used for ADHD diagnosis and leaving aside other psychiatric diagnoses with ADHD.

ADHD Parent Rating Scale Form: This scale has eighteen ADHD symptoms and its questions were answered based on a 4-point Likert scale. The data obtained from the test were highly valid, as its validity and reliability were reported above 75% (Dupaul, Power, Anastopoulos, & Reid, 1998). This scale was used for a more accurate identification of ADHD subgroups.

2.3 Methodology

Design: A single-participant multiple-baseline design across participants was utilized. The Participants' target behaviors were assessed through three consecutive phases of baseline, treatment, and follow-up (ABA design). First, target behaviors of participant (1) was accurately observed and recorded during baseline phase. The treatment phase was started for this participant while target behaviors' of participant. (2) were observed in baseline phase. The treatment sessions for this student were also started. The process was conducted for other participants and all students were gradually received treatments sessions. The target behavior of all participants were observed and recorded during follow-up sessions.

Research sessions were held in a private room in a child psychiatry outpatient clinic. None of the children received medication. Each session lasted about 45 minutes. The students' observable off-task behaviors were specified in an experimental condition, such as inattentiveness to teacher, distraction, leaving one's seat, moving around, and talking with other students.

Moreover, target behaviors in this study included no speaking, no moving around, sitting one's seat, no looking around, and no daydreaming (these behaviors are considered as samples of task-oriented behaviors). First, the participants' off-task behaviors were individually observed during different sessions and their percentages were recorded (the participants performed the homework related to their grades during the observation sessions). Intervention (self-monitoring) started individually for the participants after the baseline phase. Behaviors of 4 participants were observed accurately during follow-up sessions and their percentages were recorded.

2.4 Terri Hiltel's Self-Monitoring Intervention

"Shiny light bulb" strategy was developed by Terri Hiltel. "Light bulb" method was utilized in this program through a new and creative method in a computer-based manner. In this method, "light bulb" was used in different brightness levels including very bright-100 watts, bright-75 watts—half-bright-50 watts, low-bright-25 watts, dark or off.

In intervention sessions, we considered a session for introducing and explaining our method in a laboratory. We explained to the child what we meant by "attention". The definition of attention was explained to him tangibly and operationally. It was explained to him that attention is made of not doing 4 behaviors including no speaking, no moving around, no looking around, and no daydreaming. If a child pays no attention, none of the 4 behaviors will occur. A student's attention is complete when the behaviors of speaking, moving around, looking around, and daydreaming are not observed any more.

The students were trained to rate their attention level and they learned that the dark bulb is provided by a researcher when they have no attention to homework and the bulb shines at 100 watts when they pay attention to homework completely. Four behaviors with different brightness of bulbs were as follows:

- 1-The bulb is lit at 25 watts when they stop speaking
- 2-The bulb is lit at 50 watts when they stop moving
- 3-The bulb is lit at 75 watts when they stop looking around
- 4-The bulb is lit at 100 watts when they stop daydreaming

During the research, the students were first asked to do their homework with complete attention, and control brightness of their bulbs continuously while doing homework, stop incorrect behaviors, and replace them with four correct behaviors.

When considering the above mentioned behavioral stops, the students learned to do them and thereby change bulb brightness.

Visual analysis of data point was used for analyzing research data. The level and trend of data points were examined during test phases. Moreover, recovery percentage and effect size were considered in analyzing the data.

Written consents were collected from participants' parents for participation of children in the training sessions during research and verbal consents were collected from the children.

3. Results

Figure 1 shows multiple baseline design across different participants during the three experimental phases (baseline—intervention—follow-up).

As the diagram shows, the data points for all participants in the intervention phase were lower than the baseline. That is, the student's off-task behavior manifestation reduced compared with the baseline phase (each arrow in the diagram displays an effect). Although the therapeutic effects discontinued in the follow-up phase, off-task behaviors manifestation is reduced, compared with baseline conditions.

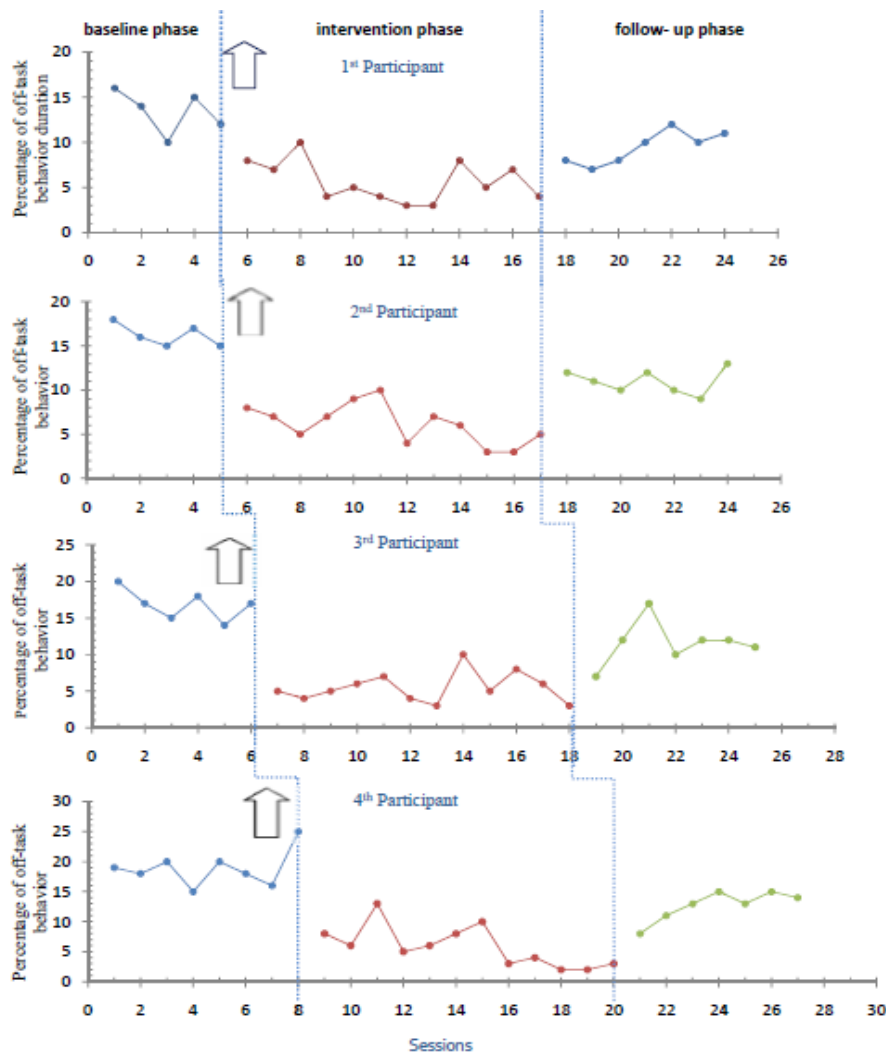


Figure 1. The results of direct observation of off-task behaviors in experimental phases

Table 1 shows the descriptive data (mean, standard deviation, etc.) for research participants in the baseline, intervention, and follow-up phases.

Table 1. Percentage of the descriptive data for participants during experimental phases

Phases		Baseline	Intervention	Follow-up
Participant	Index			
1	Mean	13.4	5.7	9.4
	Standard Deviation	2.4	2.3	1.8
	median	14	5	10
	Maximum Score	16	10	12
	Minimum Score	10	3	7
	Range	6	7	5
2	Mean	16.2	6.2	11
	Standard Deviation	1.3	2.2	1.4
	median	16	6.5	11
	Maximum Score	18	10	13
	Minimum Score	15	3	9
	Range	3	7	4
3	Mean	16.8	5.5	11.6
	Standard Deviation	2.1	2.1	3
	median	17	5	12
	Maximum Score	20	10	17
	Minimum Score	14	3	7
	Range	6	7	10
4	Mean	18.9	5.8	12.7
	Standard Deviation	3	3.4	2.5
	median	18.5	5.5	13
	Maximum Score	25	13	15
	Minimum Score	15	2	8
	Range	10	11	7

The research was done by applying a common method in applied behavior analysis. Visual analysis of data points (level and trend) was used. Figure 2 shows the level of data points for the research participants in baseline, intervention, and follow-up phases.

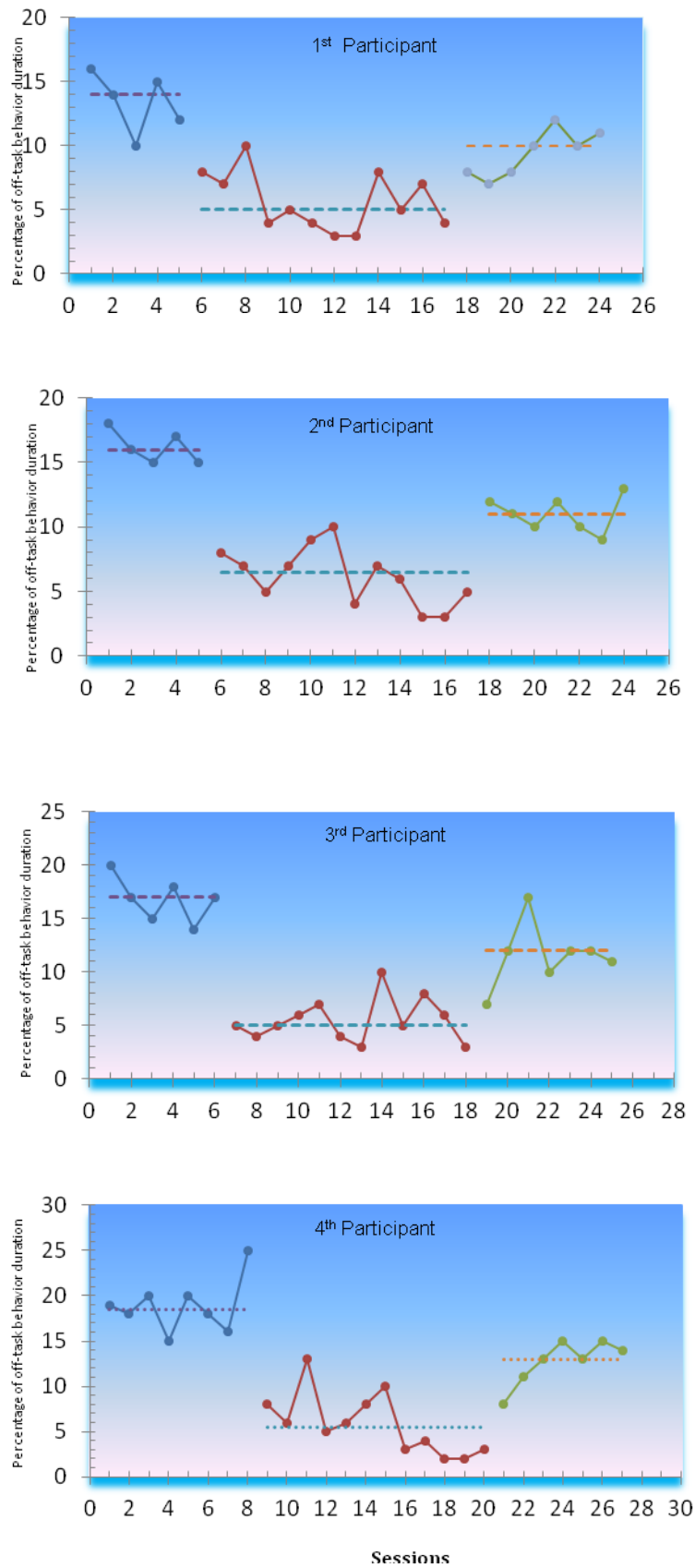
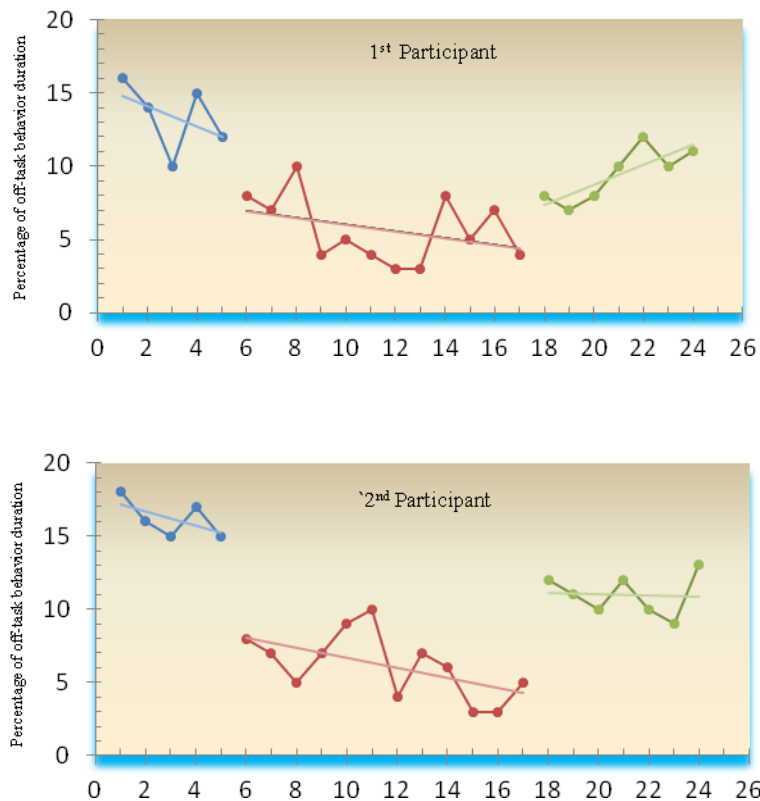


Figure 2. Visual analysis of Level for participants in three phases

Figure 2 shows a considerable reduction in the level of off-task behaviors for the first participant from the baseline to intervention and follow-up phases. Means of the participant’s behaviors at the baseline phase were 13.4, 5.7, 9.4 in baseline, intervention and follow-up conditions respectively. The level of second participant’s off-task behaviors reduced from the mean of 16.2 in the baseline to 6.5 in the Terri Hiltel Self-monitoring phase. Mean of the follow-up phase was 11, which was increased compared with the intervention phase. However, it was reduced compared with the baseline phase. According to the level analysis, performance of the third participant is almost close to the first and second participants. A comparison of performance level of the participant at baseline and intervention phases indicated reduction of off-task behaviors during intervention condition. In follow-up, the participant’s level increases compared with the intervention phase, but it reduces in proportion to the baseline. Analysis of the off-task behaviors level of the fourth participant showed that the level of off-task behaviors reduced considerably from baseline to intervention. Mean of the participant behaviors at baseline phase was 18.9, and in intervention and follow-up phases 5.8, 12.7 respectively.

Figure 3 displays the results of White’s split-middle line for examining trend lines at baseline, intervention, and follow-up phases. A descending trend is seen for the first and second participants at the baseline phase (of course by the low variability of data points). However, the behavioral intervention phase indicated a fixed linear trend (with high variability of data points). An ascending trend (with low variability of data points) is seen at the follow-up phase; off-task behaviors increased after removal of SM treatment. The results of White’s split-middle line for the third participant revealed a downward trend at the baseline phase with an almost fixed trend at the intervention phase. A mild incremental trend can be observed at the follow-up phase. The baseline phase has a slight upward trend for the fourth participant; however, a descending trend is observed at the intervention level. Although this trend is ascending at the follow-up phase, but its level is lower than the baseline. The Figure shows a fixed linear trend (with low variability of data points) at the follow-up phase.



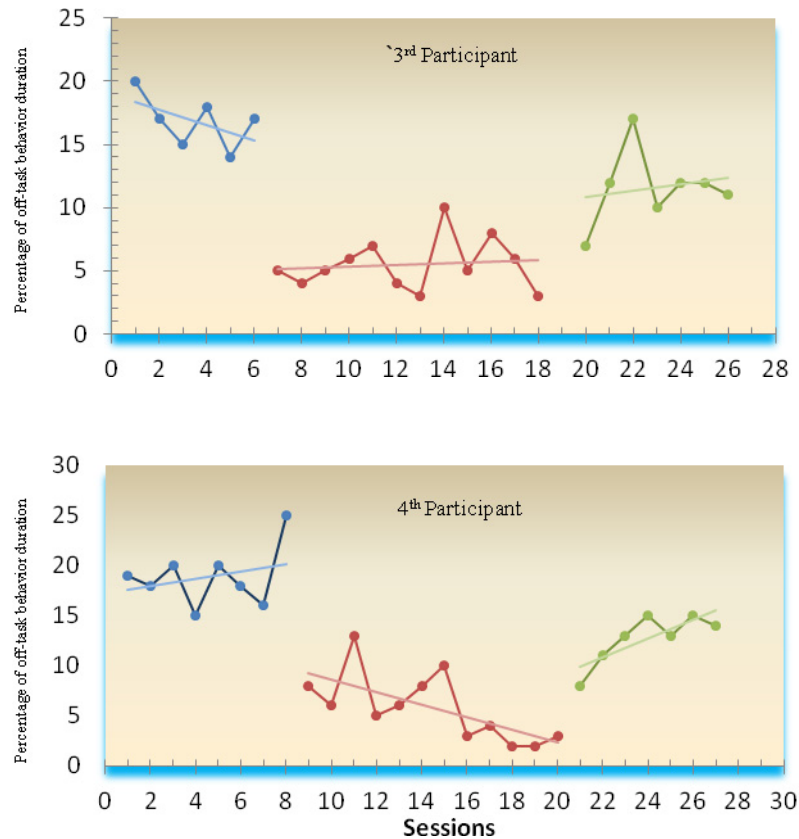


Figure 3. White's split-middle lines for off-task behaviors

Table 2 displays the recovery percentage and effect size of the self-monitoring program for the participants. Effect size scores were calculated using a method based on the mean and standard deviation of the data (Cohen's d).

Table 2. Recovery percentage and effect size of the self-monitoring program for research participants

Participant	Score		Mean		Standard Deviation		Recovery Percentage		Effect Size			
	Final Baseline	Intervention	Baseline	Intervention	Baseline	Intervention	Baseline	Intervention	Baseline	Intervention		
1	12	4	11	13.4	5.7	9.4	2.3	1.8	67	83	1.8	1.82
2	15	5	13	16.2	6.2	11	2.2	1.4	66	13	1.97	1.18
3	17	3	11	16.8	5.5	11.6	2.1	3	82	35	1.94	0.98
4	25	3	14	18.9	5.8	12.7	3.4	2.5	88	44	1.8	0.97

The percentage of overall recovery scores of the participants at the intervention phase indicates a high recovery. Therefore, it can be stated that the participants' off-task behaviors reduced compared with the primary assessment and the intervention improved participants' behavioral performance.

4. Discussion

This study aimed to examine the effectiveness of Terri Hiltel's Self-monitoring Program on improving attention among ADHD students. The findings obtained from the visual analysis of data points showed that off-task behaviors of the students at the intervention phase reduced in comparison to the baseline, which confirms short-term effectiveness of Terri Hiltel's Self-monitoring technique on reducing off-task behaviors of the students. Additionally, compared with baseline (not treatment phase), off-task behaviors were reduced at follow-up phase. Therefore, Terri Hiltel's Self-monitoring Program was effective in a short-term period, but the treatment effects has not maintained at the follow-up phase.

This findings are consistent with the experimental results in which self-monitoring programs for attention are described as effective treatment for improving attention in ADHD students (Langberg et al., 2010; Reid, Trout, & Schartz, 2005; DuPaul, Eckert, & Vilaro, 2012; Albano & Kendall, 2002). Although self-monitoring program, as a form of cognitive-behavioral therapy, seems to be reasonable for improving attention's behaviors, the results of the studies in this field were not as clear and distinctive as behavioral therapy techniques. The inconsistent studies including the research results, which prove that the effectiveness of cognitive-behavioral therapy on different externalizing disorders such as ADHD were not so satisfactory (Barkley, DuPaul, & McMurray, 1990; Grave & Bilissett, 2004; Southam-Gerow & Kendall, 2000).

In explaining the study findings it can be said that as ADHD students have major problems in self-monitoring skills to do their homework and they are unable to control and prevent their daily behaviors, teaching self-monitoring skills could help them improve their own behaviors. Although problems inattention may be due to cognitive reasons, some of these difficulties' may be due to self-regulation and meta-cognitive skills, which students should learn. Thus gaining skills in self-monitoring and one of the features of self-regulation learners and was among the approaches, which help the students to gain metacognitive skills (Barbarese et al., 2007).

In addition, the findings were confirmed by research findings on the effectiveness of self-management and self-regulation on different behaviors of ADHD students and reduction of off-task behaviors (Rabiner, 2015; Barry & Haraway, 2005). The results of a meta-analysis study on the effectiveness of behavioral and cognitive therapies for children and adolescents with ADHD and/or impulsivity disorders indicated the effectiveness of cognitive therapies. However, due to the temporary effects of treatment the maintenance of effects is essential point (Turchiano, 2000). Other studies have confirmed the effectiveness of self-monitoring training on improving attention of ADHD students (Amato-Zech, Hoff, & Doepke, 2006; Mirnasab & Ghobari, 2011; Wright, 2014).

Hallahan and Hudson introduced self-monitoring as a successful method in which an individual changes his/her overt behavior through examining and organizing his/her mental events. The individual was encouraged to assume further responsibilities for his/her different behaviors (Hallahan & Hudson, 2002). On the other hand, different studies introduced the self-monitoring strategy for observing and recording specific aspect of behavior in different populations and at all ages (in public and exceptional training situations, the students with growth inabilities, learning inabilities, behavioral and emotional disorders, and even children with autism) (Harris, 1986; Neef, Bicard, & Endo, 2001; Dush, Hirt, & Schroeder, 1989; O'Leary & Dubey, 1979; Barkley, 2002; Hong, 2008; DuPaul, Gormley, & Laracy, 2014; Watson et al., 2015; Stasolla, Perilli, & Damiani, 2014).

Some limitations of this study should be considered. As this research was conducted on primary school students with ADHD in clinical settings, generalization of its results to other ADHD subtypes, including predominantly hyperactivity and impulsive subtypes and other educational levels and social environments (such as school and home), should be performed more cautiously. Other limitations of the present study included the limited cooperation of parents at the beginning of the program, which lengthened the program, and researcher's continuous follow-ups.

5. Conclusion

In summary, the results showed a significant reduction in manifestation of off-task behaviors for the participants who were exposed to cognitive-behavioral (self-monitoring) therapy intervention. However, treatment effects are not observed in some participants over time (follow-up phase). Since this is a single subject research, it is proposed to conduct other single subject studies to generalize the research findings.

With respect to employing the single subject design and individual and separate analysis of the data for each single subject, this research clarifies the importance of considering individual differences in examining the effectiveness of therapies. Such differences are not regarded in group comparison designs. Moreover, in administrating behavioral direct observation technique, students' off-task behaviors were not observed as separate clinical symptoms and we are unable to assess separate and independent off-task behaviors (such as

impulsivity and hyperactivity, ...). The study of effectiveness of therapies on each of the core symptoms of ADHD in children requires further studies conducting in future.

References

- Albano, A. M., & Kendall, P. C. (2002). Cognitive behavioral therapy for children and adolescents with anxiety disorders: Clinical research advances. *International review of psychiatry*, *14*(2), 129-134. <http://dx.doi.org/10.1080/09540260220132644>
- Amato-Zech, N. A., Hoff, K. E., & Doepke, K. J. (2006). Increasing on-task behavior in the classroom: Extension of self-monitoring strategies. *Psychology in the Schools*, *43*(2), 211-221. <http://dx.doi.org/10.1002/pits.20137>
- Arnold, L. E. et al. (2015). Long-Term Outcomes of ADHD: Academic Achievement and Performance. *Journal of Attention Disorders*, *12*(22). <http://dx.doi.org/10.1177/1087054714566076>
- Barbarese, W. J., Katusic, S. K., Colligan, R. C., Weaver, A. L., & Jacobsen, S. J. (2007). Long-term school outcomes for children with attention-deficit/hyperactivity disorder: A population-based perspective. *Journal of Developmental & Behavioral Pediatrics*, *28*(4), 265-273. <http://dx.doi.org/10.1097/dbp.0b013e31811ff87d>
- Barkley, R. A. (2010). Differential diagnosis of adults with ADHD: The role of executive function and self-regulation. *The Journal of clinical psychiatry*, *71*(7), 1-478. <http://dx.doi.org/10.4088/jcp.9066tx1c>
- Barkley, R. A., DuPaul, G. J., & McMurray, M. B. (1990). Comprehensive evaluation of attention deficit disorder with and without hyperactivity as defined by research criteria. *Journal of consulting and clinical psychology*, *58*(6), 775. <http://dx.doi.org/10.1037/0022-006x.58.6.775>
- Barkley, R. A. (2002). Psychological treatments for attention-deficit/hyperactivity disorder in children. *Journal of Clinical Psychiatry*, *63*, 36-43.
- Barry, L. M., & Haraway, D. L. (2005). Self-management and ADHD: A literature review. *The Behavior Analyst Today*, *6*(1), 48-64. <http://dx.doi.org/10.1037/h0100051>
- Biederman, J., & Faraone, S. V. (2005). *Attention-deficit hyperactivity disorder Lancet* (Vol. 366, No. 9481, pp. 237-248).
- Binder, L. M., Dixon, M. R., & Ghezzi, P. M. (2000). A procedure to teach self-control to children with attention deficit hyperactivity disorder. *Journal of Applied Behavior Analysis*, *33*, 233-237. <http://dx.doi.org/10.1901/jaba.2000.33-233>
- Dart, E. H. et al. (2012). Test driving interventions to increase treatment integrity and student outcomes. *School Psychology Review*, *41*, 467-481.
- Dobson, K. S. (Ed.). (2009). *Handbook of cognitive-behavioral therapies*. Guilford Press.
- DuPaul, G. J., Eckert, T. L., & Vilaro, B. (2012). The effects of school-based interventions for attention deficit hyperactivity disorder: A meta-analysis 1996-2010. *School Psychology Review*, *41*(4), 387. <http://dx.doi.org/10.1037/e622412010-001>
- DuPaul, G. J., Gormley, M. J., & Laracy, S. D. (2014). School-based interventions for elementary school students with ADHD. *Child and adolescent psychiatric clinics of North America*, *23*(4), 687-697. <http://dx.doi.org/10.1016/j.chc.2014.05.003>
- DuPaul, G. J., Power, T. J., Anastopoulos, A., & Reid, R. (1998). *ADHD rating scale-IV*. Guilford: New York.
- DuPaul, G. J., & Stoner, G. (2014). *ADHD in the schools: Assessment and intervention strategies*. Guilford: New York.
- Dush, D. M., Hirt, M. L., & Schroeder, H. E. (1989). Self-statement modification in the treatment of child behavior disorders: A meta-analysis. *Psychological Bulletin*, *106*, 97-106. <http://dx.doi.org/10.1037/0033-2909.106.1.97>
- Froelich, J., Doepfner, M., & Lehmkuhl, G. (2002). Effects of combined cognitive behavioral treatment with parent management training in ADHD. *Behavioral and Cognitive Psychotherapy*, *30*(1), 111-115. <http://dx.doi.org/10.1017/s1352465802001108>
- Gawrilow, C., & Gollwitzer, P. M. (2008). Implementation intentions facilitate response inhibition in children with ADHD. *Cognitive Therapy and Research*, *32*(2), 261-280. <http://dx.doi.org/10.1007/s10608-007-9150-1>

- Ghanizadeh, A., Mohammadi, M. R., & Yazdanshenas, A. (2006). Psychometric properties of the Farsi translation of the kiddie schedule for affective disorders and schizophrenia-present and lifetime version. *BMC psychiatry*, 6(1), 1. <http://dx.doi.org/10.1186/1471-244X-6-10>
- Goldstein, S., & Goldstein, M. (1998). Managing attention deficit hyperactivity disorder in children. *A guide for practitioners*.
- Grave, J., & Bilissett, J. (2004). Is cognitive behavior therapy developmentally appropriate for young children? A critical review of the evidence. *Clinical Psychology Review*, 24, 399-420. <http://dx.doi.org/10.1016/j.cpr.2004.03.002>
- Hallahan, D. P., & Hudson, K. G. (2002). *Teaching tutorial 2: Self-monitoring of attention*. Virginia: University of Virginia, Division for Learning Disabilities of the Council for Exceptional Children.
- Harris, K. R. (1986). Self-monitoring of attentional behavior versus self-monitoring of productivity: Effects on on-task behavior and academic response rate among learning Disabled children. *Journal of Applied Behavior Analysis*, 19(4), 417-423. <http://dx.doi.org/10.1901/jaba.1986.19-417>
- Harris, K. R. et al. (2005). Self-monitoring of attentional versus self-monitoring of academic performance: Effects among students with ADHD in the general education classroom. *Journal of special education*, 39, 145-156. <http://dx.doi.org/10.1177/00224669050390030201>
- Harrison, J., Thompson, B., & Vannest, K. (2009). Interpreting the Evidence for Effective Interventions to Increase the Academic Performance of Students with ADHD: Relevance of the Statistical Significance. *Review of Educational Research*, 79, 740-775. <http://dx.doi.org/10.3102/0034654309331516>
- Kendall, P. C., & Panichelli-mindel, S. M. (1995). Cognitive behavioral treatments. *Journal of Abnormal Child Psychology*, 33(1), 107-124. <http://dx.doi.org/10.1007/bf01447047>
- Kendall, P. C., & Comer, J. S. (2010). *Childhood Disorders* (2nd ed.). NY: Routledge/Taylor & Francis.
- Langberg, J. M., Arnold, L. E., Flowers, A. M., Epstein, J. N., Altaye, M., Hinshaw, S. P., & Jensen, P. S. (2010). Parent-reported homework problems in the MTA study: Evidence for sustained improvement with behavioral treatment. *Journal of Clinical Child & Adolescent Psychology*, 39(2), 220-233. <http://dx.doi.org/10.1080/15374410903532700>
- Lee, Y. H. (2008). *Increasing on-task behaviours in ADHD children in mainstream classrooms: The use of self-monitoring with goal-setting and the theory of planned behavior*. Retrieved from <http://hdl.handle.net/10497/2869>
- Mirnasab, M. M., & Bonab, B. G. (2011). Effects of Self-monitoring Technique on Inattentive Behaviors of Students with Attention Deficit Hyperactivity Disorder. *Iranian journal of psychiatry*, 6(2), 84.
- Moore, L. A., & Hughes, N. H. (1988). *Cognitive behavior therapy with children in schools*. New York: Pergamon Press.
- Musten, L. M. (1996). *Efficacy of stimulant medication treatment of attention deficit hyperactivity disorder in preschool-aged children*. University of Ottawa (Canada).
- Neef, N. A., Bicard, D. F., & Endo, S. (2001). Assessment of impulsivity and the development of self-control in students with attention deficit hyperactivity disorder. *Journal of the Experimental Analysis of Behavior*, 34(4), 397-408. <http://dx.doi.org/10.1901/jaba.2001.34-397>
- Nelson, J. R., Benner, G. J., & Mooney, P. (2013). *Instructional practices for students with behavioral disorders: Strategies for reading, writing, and math*. Guilford Publications.
- Nelson, J. R., Benner, G. J., & Bohaty, J. (2014). Addressing the academic problems and challenges of students with emotional and behavioral disorders. In H. M. Walker, & F. M. Gresham (Eds.), *Handbook of Evidence-Based Practices for Emotional and Behavioral Disorders* (pp. 363-377). New York: Guilford Press.
- Nelson, R.W., & Israel, A. C. (2003). *Behavior Disorders of Childhood* (5th ed.). New Jersey: Prentice Hall.
- O'Leary, G., & Dubey, D. R. (1979). Applications of self-control procedures by children: Review. *Journal of Applied Behavior Analysis*, 12, 449-465. <http://dx.doi.org/10.1901/jaba.1979.12-449>
- Orgill, A., & Serfontein, S. (1996). Behavioral & cognitive effects of stimulant & non stimulant drugs in childhood attention deficit disorder. *European Neuropsychopharmacology*, 6(3), 56-62.

- Pearson, D. A. et al. (2004). Treatment effects of methylphenidate on cognitive functioning in children with mental retardation and ADHD. *Journal of the American Academy of Child and Adolescent Psychiatry*, 43(6), 677-686. <http://dx.doi.org/10.1097/01.chi.0000124461.81324.13>
- Pelham Jr, W. E., Gnagy, E. M., Greiner, A. R., Hoza, B., Hinshaw, S. P., Swanson, J. M., & McBurnett, K. (2000). Behavioral versus behavioral and pharmacological treatment in ADHD children attending a summer treatment program. *Journal of abnormal child psychology*, 28(6), 507-525.
- Pelham, W. E., & Gnagy, E. M. (1999). Psychosocial and combined treatments for ADHD. *Mental retardation and developmental disabilities research reviews*, 5(3), 225-236. [http://dx.doi.org/10.1002/\(sici\)10982779\(1999\)5:3<225::aid-mrdd9>3.0.co;2-e](http://dx.doi.org/10.1002/(sici)10982779(1999)5:3<225::aid-mrdd9>3.0.co;2-e)
- Purdie, N., Hattie, J., & Carroll, A. (2002). A review of research on interventions for attention deficit hyperactivity disorder: What works best? *Review of Educational Research*, 72(1), 61-99. <http://dx.doi.org/10.3102/00346543072001061>
- Rabiner, D. (2015). *To help children with ADHD improve academic performance, combine medication AND behavioral treatment*. Retrieved from <http://sharpbrains.com/blog/2015>
- Reid, R., Trout, A. L., & Schartz, M. (2005). Self-regulation interventions for children with attention deficit/hyperactivity disorder. *Exceptional Children*, 71(4), 361.
- Shapiro, E. S., & Kratochwill, T. R. (2003). *Conducting school-based assessment of child and adolescent behavior*. New York: Guilford Press.
- Shimabukuro, S. M., Prater, M. A., Jenkins, A., & Edelen-Smith, P. (1999). The effects of self-monitoring of academic performance on students with learning disabilities and ADD/ADHD. *Journal of Education & Treatment of children*, 22, 397-414.
- Southam-Gerow, M. A., & Kendall, P. C. (2000). A preliminary study of the emotion understanding of youths referred for treatment of anxiety disorders. *Journal of Clinical Child Psychology*, 29(3), 319-327. http://dx.doi.org/10.1207/s15374424jccp2903_3
- Stasolla, F., Perilli, V., & Damiani, R. (2014). Self-monitoring to promote on-task behavior by two high functioning boys with autism spectrum disorders and symptoms of ADHD. *Journal of Attention Disorders*, 8(5), 472-479. <http://dx.doi.org/10.1016/j.rasd.2014.01.007>
- Turchiano, T. P. (2000). A meta-analysis of behavioral and cognitive therapies for children and adolescents with attention deficit hyperactivity and/or impulsivity disorders. In *Dissertation Abstracts International: Section B: The Sciences & Engineering* (Vol. 60(11-B), p. 5760). US: Univ Microfilms international.
- Watson, S. M. R., Richels, C., Michalek, A. P., & Raymer, A. (2015). Psychosocial Treatments for ADHD A Systematic Appraisal of the Evidence. *Journal of attention disorders*, 19(1), 3-10. <http://dx.doi.org/10.1177/1087054712447857>
- Whalen, C. K., Henker, B., & Hinshaw, S. P. (1985). Cognitive behavioral therapies for hyperactive children: Promises, problem, and prospects. *Journal of Abnormal Child Psychology*, 13(3), 391-410. <http://dx.doi.org/10.1007/bf00912724>
- Wimett, L., & Laustsen, G. (2003). First new ADHD treatment in 30 years. *The Nurse Practitioner*, 28(12), 50-53. <http://dx.doi.org/10.1097/00006205-200312000-00009>
- Wright, J. (2014). *Manage Problem Behaviors: Self-Monitoring of Attention to Instruction*. Retrieved from <http://www.interventioncentral.org>

Copyrights

Copyright for this article is retained by the author(s), with first publication rights granted to the journal.

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/4.0/>).