

The Effectiveness of Resilience Training on Inattention and Impulsivity in Children with ADHD

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Received: 2022-09-06

Accepted: 2023-03-03

Abstract

Aim: One of the problems of children with ADHD is the lack of resilience. The purpose of this study was to investigate the effectiveness of resilience training on inattention and impulsivity in children with ADHD. This quasi-experimental research used a pre-test/post-test design with a control group. The statistical population included male students of primary schools in Tabriz city. The sample size was 30 students divided into an experimental group (n = 15) and a control group (n = 15). The experimental group received 12 sessions of the resilience training program, but the control group was not given any training. In order to control the pre-test effect, analysis of covariance (ANCOVA) was used. The obtained results showed that resilience training reduced the amount of inattention and impulsivity in children with ADHD. Therefore, it is suggested to use resilience training as an educational-therapeutic method for children with ADHD.

Keywords: ADHD, Children with ADHD, Impulsivity, Inattention, Resilience

Introduction

ADHD impairs several aspects of a person's functional areas; as such, the Diagnostic and Statistical Manual of Mental Disorders (2022) considers it a severe chronic disorder in mental development and a stable pattern of attention deficit and impulsivity, which has a prevalence of about 7% among children. The current literature indicates that children with this disorder continuously face challenges in resilience skills (Climie & Henley, 2016) and if not treated, it leads to poor resilience performance, poor educational activities, occupational failure, and resorting to drug and alcohol use, aggression, anxiety and depression in adulthood (Arruda et al., 2019). Experimental studies have shown that children with ADHD have low resilience (Jia, 2018). Resilience guarantees people's mental health by modulating and diminishing factors such as anxiety, tension and depression. To increase competence and resilience in children suffering from ADHD, it is necessary to focus on strategies to correct and compensate for this disorder (Blaustein & Kinniburgh, 2018). Cumberland et al. (2004) reported an inverse relationship between resilience and impulsivity. Furthermore, Sadri et al. (2018) concluded the effectiveness of resilience training on students with impulsive behavior. Semple et al. (2010) also mentioned that increasing attention increases resilience in children. However, most of these interventions were applied to children who did not have attention deficit/hyperactivity disorder. Therefore, we seek to find out the effect of resilience training on the level of inattention and impulsivity in children with ADHD?

Methodology

The present quasi-experimental research used a pre-test and post-test design with an experimental group and a control group. To implement the research design, 30 male students in Tabriz were selected by simple random sampling method and were randomly divided into an experimental group (n = 15) and a control group (n = 15). Data were collected through the Child Symptom Inventory, Connor-Davidson resilience scale, and Henderson-Milstein resilience training package. First, the Child Symptom Inventory was completed by the teachers. In this questionnaire, teachers commented on the observed behavior of students in the classroom. Based on the students' scores and analysis, 30 students with ADHD symptoms were selected. They were randomly divided into an experimental and a control group. The resilience training package was provided only to the experimental group.

The collected data of the pre-test and post-test were analyzed in SPSS 25 software using descriptive statistics (mean and standard deviation) and inferential statistics (multivariate analysis of covariance at significance level of $P < 0.01$).

Results

Table 1 shows the mean and standard deviation of resilience, inattention, and impulsivity of the pre-test and post-test stages for the experimental and control groups. The skewness and elongation indices of the scores were in the range (± 2) and Kolmogorov-Smirnov test showed normal data distribution in both groups at pre-test and post-test stages ($p < 0.05$). Furthermore, the assumption of homogeneity of variances with Levine's test, as well as the homogeneity of the slope of the regression line and a linear relationship between the covariance variable and the dependent variable were observed. Tables 2 and 3 show the results of covariance analysis with a significant difference in inattention ($F = 20.89, P < 0.01$) and impulsivity ($F = 23.53, P < 0.01$) between the experimental and control groups. Therefore, it can be concluded that Henderson-Milstein resilience package training is effective in reducing the inattention and impulsivity of children with ADHD.

Table 1. Mean and standard deviation of resilience, inattention and impulsivity in the two groups

Components	Experimental group		Control group	
	Mean \pm standard deviation		Mean \pm standard deviation	
	Pre-test	Post-test	Pre-test	Post-test
Resilience	9.89 43.20 \pm	\pm 14.45 59.60	41.53 \pm 9.03	42.73 \pm 10.01
Inattention	\pm 2.66 4.67	3.33 \pm 2.35	4.13 \pm 2.61	4.47 \pm 2.20
Impulsivity	\pm 2.00 7.20	5.20 \pm 2.00	5.73 \pm 2.86	5.60 \pm 2.35

Table 2. Covariance analysis of inattention

Variable	Mean square	df	F	Sig.	Observed power
Experimental	19.08	1	20.89	0.001	0.699
Corrected Model	13.82	5	15.13	0.000	0.894
Error	0.913	9			
Total	244.000	15			

Table 3. Covariance analysis of impulsivity

Variable	Mean square	df	F	Sig.	Observed power
Experimental	15.57	1	23.53	0.001	0.723
Corrected Model	10.08	5	15.24	0.000	0.894
Error	0.662	9			
Total	462.000	15			

Discussion and conclusion

The present study was conducted to investigate the effectiveness of resilience training on inattention and impulsivity in children with ADHD. The results showed a significant difference in inattention and impulsivity between the two groups, which is consistent with the results of previous research.

Better coping strategies and defense mechanisms are among the reasons for the effectiveness of resilience training in reducing ADHD components. Most of these interventions create changes in individual's coping strategies. People with high resilience deal with stressful events with optimism and self-confidence. As a result, they see these events as controllable and use more active coping strategies. Therefore, when children with ADHD encounter a lack of attention or an irritating situation, resilience does not allow them to develop this disorder because resilience increases individual's ability to successfully adapt to psychological pressures and thus reduces the effects of psychological pressures. (Hosseini and Salimi, 2012). Several limitations should be considered for interpreting the findings of this study. It was difficult to conduct the research in person due to the outbreak of COVID-19 pandemic. Children's failure to understand some questions in the resilience questionnaire was another challenge. The researchers tried to be present at the time of completing the questionnaires and provide the necessary explanations in this regard. Since the questionnaires were self-assessment type, there is a possibility of bias in children's responses.

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How to cite: Naghizadeh, M., Moradi, T., Pourtaieb, N. (2025). The Effectiveness of Resilience Training on Inattention and Impulsivity in Children with ADHD. *The Journal of New Thoughts on Education*, 20(4), 119-129. doi: 10.22051/JONTOE.2023.41478.3643