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The effectiveness of cognitive-behavioral play therapy on flexibility in aggressive children

*Roghayeh Badamian¹; Neda Ebrahimi Moghaddam²

¹MA. in educational management, Islamic Azad University, Roodehen Branch, Roodehen, Iran.

²Ph.D. student in educational management, Tehran University, Tehran, Iran.

Abstract

Introduction: Cognitive-behavioral play therapy is combination of various play therapy techniques with cognitive-behavioral model to increase desirable behaviors and reduce harmful behaviors in children. The objective of the present research is studying the effectiveness of cognitive-behavioral play therapy on flexibility in aggressive children.

Materials and Methods: In this research, 20 aggressive children aged 6-9 years of Tehran were selected based on CSI-4 inventory and divided to test and control groups. Tool of research was computer form of Wisconsin test that was executed in both groups after receiving 10 therapy sessions for test group in pre-test and post-test steps.

Results: The results show that cognitive-behavioral group play therapy has significant effect on decreasing wrong responses and stopping mistakes and increasing correct responses.

Conclusion: It seems that cognitive-behavioral group play therapy increases flexibility in aggressive children.

Keywords: Aggression, Cognitive-behavioral play therapy, Cognitive flexibility

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Introduction

Recent studies have shown that behavioral aggression is one of the common behavioral problems in pre-elementary and elementary school students (1). Structural aggression is multi-dimension, including an extensive range of behaviors to harm or damage (2).

Studies to check aggression have emphasized the role of factors such as moods, social relationships, cultural factors, problems in interpersonal relationships, and attachment on aggression.

In addition, gender differences have stable roles in the evolutions of mental growth and aggression from the beginning of a lifetime (3). Aggression expression is different in children and may express itself through physical threats toward others, throwing objects toward others to harm them in the classroom or playground, shouting, humiliating others, and opposing them, as lead to physical or verbal reactions in them a using virtual communicative and social software tools for bullying, mocking, humiliating, and pressuring other children (4).

*Corresponding Author

Islamic Azad University, Roodehen Branch, Roodehen, Iran.

Haleh_badamian@yahoo.com

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Meanwhile, it seems that one problem of these children is their disability in proper adaptation and flexibility in the environment and surrounding conditions, resulting in inefficiency in using applied solutions and not having knowledge of various confrontation techniques with a challenge and desirable reaction (5). Educational methods include solutions and increasing cognitive-behavioral play therapy for children. This approach combines the cognitive-behavioral therapy model with play therapy to cure children's psychological disorders such as anxiety, phobia, stress, depression, etc. Dobson introduced cognitive-behavioral play therapy as one of the educational techniques of solution skills for the afflicted children to conduct disorder, *oppositional* defiant disorder, and aggression that can reduce anger in children with impulse control disorder (6). Walkup et al. studied afflicted children with anxiety disorder and showed that play disorder with a cognitive-behavioral approach effectively reduces children's anxiety with and without using the drug (6). Sokhodolsky et al. knew play therapy based on a cognitive-behavioral approach was effective on children and teenagers' aggression in a meta-analysis yet referred to its role in increasing children and teenagers' social skills (7). Findings of Ghaderi's research on twenty-four 8-11 years old afflicted children to conduct disorder showed a reduction in children's aggression under the interruption of 10 cognitive-behavioral play sessions (8).

Hassani et al., in research on ADHD, stated that cognitive-behavioral play therapy reduces anxiety and increases the self-esteem of these children (9).

Research on disabled children learning dictation showed that cognitive-behavioral play therapy effectively rehabilitates these students' minds and social skills (10,11).

According to what has been stated about aggression, all its faces among children, and increased aggressive behaviors among pre-elementary and elementary school students (12), using methods such as cognitive-behavioral play therapy to improve infrastructural skills such as solution has been mentioned less such as solutions that are essential and important in its turn with children flexibility. What is mainly studied is the effectiveness of play therapy on

memory, solution, etc., rather than cognitive flexibility. In this regard, the present research aims at the effectiveness of cognitive-behavioral play therapy on the cognitive flexibility of aggressive children.

Materials and Methods

The present research is semi-experimental with pre-test, post-test, and control groups. The statistical population of this research is all present 6-9 years old aggressive children of Tehran city 20 of them were selected in convenience using CIS-4 inventory and were divided into two test and control groups randomly. First, the computer form of the Wisconsin cards test was executed in both groups in the pre-test step. Then, the test group participated in 10 cognitive-behavioral play therapy sessions, and finally, the Wisconsin cards test was executed in both groups. Therefore, Spss20 and multivariate covariance analysis tests were used to analyze data.

Research instruments

A) Child Symptom Inventory (CSI-4): this inventory is a behavior grading scale that Gadow and Sprafkin designed to screen behavioral and emotional disorders of 5-12 years old children for the first time in 1984 and was revised coinciding with the 4th edition of the diagnostic and statistical manual of mental Disorder (DSM) in 1994. CSI-4 has two parental and teacher forms. The parental form has 97 questions that screen five emotional and behavioral disorders and the teacher form have 77 questions that screen 13 emotional and behavioral disorders and are scaled from 0 to 1 on a four-point scale. Content validity of this inventory has been confirmed as an identification and screening tool for children's emotional and behavioral disorders. The conducted researches reported parental form in the 0.29 to 0.76 ranges. In addition, the parental form of this tool was used to identify aggressive children (13).

B) Wisconsin cards sorting test: this card was formed by Brant and Berg in 1948 and was prepared for studying abstract behavior and collection change (14). Fourteen cards are given to participants with 1 to 4 symptoms in red, green, yellow, and blue colors. The participant task was to put cards one after another based on future responses models about replacing cards by their

inference, and ten cards were collected in 1 row after one accurate alternating turn until to change the mentioned principle. Therefore, color, form, and symptoms were considered the principle of sorting. The test continues until the participant puts ten cards six times in one sort or reports the mentioned infrastructural principle spontaneously. The performance in this test means abstract inference about sort acquiring, and stagnation error occurs when participants persist on a wrong initial assumption in the first series in sorting or continue sorting based on the previous successful principle. The stagnation error is usable and valuable for documentation problems in forming conceptions, benefiting from cognitive correction and flexibility (15). Axelrod et al. stated that the marketers' validity was reported as satisfying and higher than 13%, and test validity was reported at 0.90 using the test re-test method. Wisconsin card sorting test measures cognitive flexibility (16). Cognitive-behavioral play therapy interruption was executed in ten 45-minute sessions twice a week for children of the test group. A brief explanation of the sessions was following: The first session was about children's introduction to each other, stating play rules of group and playroom, explanations to parents, and emphasis on regular presence in sessions. The second session was about using painting and group play to make the relationship between students and teaching rules of group games and emphasis on execution and

respect to them by students. The third session was about checking the past homework, students' familiarity with all types of emotions, calling them by dummy cards, asking the students to express their excitement about any experiences, determination homework for the next session. The fourth session is to check students' previous homework, relaxation training by iron man, macaroni, etc., provide necessary situations for children to use these techniques, and determine further session homework.

The fifth session checks previous homework, familiarity with intellect conception, thought bubble game with examples, and determination for the next session.

The fifth and sixth sessions are to check previous sessions' homework, train various methods for solutions using dolls and fiction, and play a role in students' cooperation and determination homework. Seventh and eighth sessions to check homework, play with paste and clay, and play with a group of students to present and examine various methods of facing the communication challenge with others in the group.

The ninth session will review the previous sessions, playing strip, and scarf story. The tenth session is to review previous sessions and the execution post-test.

Results

Descriptive analysis is shown in Table 1.

Table 1. Descriptive analysis of Wisconsin test in the experimental group

Group	Variable	Mean	SD
Pre-test	Incorrect answer	12.70	2.49
	Correct answer	24.80	5.11
	Stagnation error	34.30	5.33
Post-test	Incorrect answer	8.60	2.50
	Correct answer	30.50	5.75
	Stagnation error	29.80	6.32

Table 1 shows that test group participants' scores reduced the number of incorrect answers and stagnation error in the pre-test step compared to

the post-test, and their scores increased incorrect answers.

Table 2. Descriptive analysis of Wisconsin test in the control group

Group	Variable	Mean	SD
Pre-test	Incorrect answer	13.60	2.31
	Correct answer	24.80	5.11
	Stagnation error	34.30	5.33
Post-test	Incorrect answer	14.20	2.39
	Correct answer	25.40	5.21
	Stagnation error	34.50	4.24

Table 2 shows no significant change in control group participants' scores in the number of correct, incorrect, and stagnation errors. Later,

the play therapy effect is checked using multivariate covariance analysis.

Table 3. Multivariate covariance analysis of play therapy effects on aggressive children's flexibility

Variable	Sum of squares	df	Mean Square	F	P
Incorrect answer	99.80	1	99.80	12.10	0.00
Correct answer	186.70	1	186.70	8.68	0.00
Stagnation error	106.05	1	106.05	26.71	0.00

Table 3 shows $F=12.10$ in incorrect answers and $F=8.68$ incorrect answers. Moreover, $F=26.71$ in stagnation error, it can be claimed that cognitive-behavioral play therapy of the group in 0.05 sig. Level increases the number of correct answers and reduces incorrect answers and stagnation error in aggressive children under therapy.

Discussion

Pre-elementary and elementary school periods are good years to discern and interrupt all emotional, behavioral, social, and educational problems and disorders. One of today's everyday problems causing many children to refer to medical centers is aggression and its consequences. Identification of the involving factors in its occurrence to reduce this problem can reduce progress and consequences (17). Various factors are involved in the occurrence of aggressive behaviors, which can result from social and family relationships or a low level of people's ability and skills in confrontation with challenging situations out of a person's ability (4). Defects in execution performances can be known as one of these factors that cause problems in interpersonal and social relationships and proper emotional feedback with a situation for disability

in the comprehensive cognitive process (18). An individual disability in accurate analysis of a problem, non-consideration of various efficient techniques, ceasing methods application that may smooth the person in a short time are related cases to aggression and expression of all related behavior types and are involved in repetition and re-expression of aggressive behaviors, particularly in aggressive children with no opportunity of learning and testing various coping strategies with challenging situations (19). Meanwhile, cognitive flexibility provides adaptation to changes or problems and keeps various solutions in mind to change paths when necessary and not persist in repeating one method (20). The research findings showed that cognitive-behavioral play therapy is effective by reducing stagnation error as the primary cognitive flexibility index in the Wisconsin test, increasing correct answers, and reducing incorrect answers.

Several points must be considered in determining these findings. First, as children are in the initial years of their growth, particularly in cognitive growth, they cannot study various environmental aspects simultaneously. Nevertheless, they do not have enough knowledge about emotions and their

consequences. This action makes them select and use the first method of controlling the situation (21). Play therapy is an interactive and communicative opportunity where a child can measure his/her aggressive behavior by play therapist supervision to be familiar with its effect on others and teach the child how to change the

path from aggressive behavior to desirable behavior, showing flexibility increase in children.

Conclusion

It seems that cognitive-behavioral group play therapy increases flexibility in aggressive children.

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