

## Comparing the Effects of Play Therapy and Selected Sports Exercises on Self-Confidence, Physical Self-Efficacy and Mental Toughness in Children

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### Abstract

**Background:** The present research aimed at comparing the effect of play therapy and selected sports exercises on self-confidence, physical self-efficacy and mental toughness in children.

**Methods:** This study followed a semi-experimental design. The statistical population included children aged 9 to 11 years. The participants included 60 children divided into one control (group 1) two experimental groups (groups 2, and 3), each comprising 20 individuals. Group 2 was under the training of play therapy and group 3 enjoyed selected sports exercises. Analysis of Variance (ANOVA) was used for analyzing the data.

**Results and Conclusion:** It was found that there is a significant difference between the three groups in the average self-confidence, mental toughness, and physical self-efficacy. The influence of selected sports exercises on self-confidence, mental toughness and physical self-efficacy of children was revealed to be more than that of play therapy.

**Key Words:** Mental toughness, Physical self-efficacy, Play therapy, Self-confidence, Sports exercises.

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## 1- INTRODUCTION

Children are one of the important members of every family (1). Improving children's psychological indicators as an important issue has always been discussed (2). The most important period of motor development is childhood and continuous physical, motor, cognitive and emotional growth can be considered as the sign of proper motor development. Early experiences and learning in this period are very effective in a person's later learning (3). So, efforts to stabilize children's behavioral and psychological conditions can have wide-ranging positive effects on the social level. This issue has caused major efforts to improve the psychological conditions of children (4). Stable psychological conditions can play an important role in improving the mental and psychological health of children (5). Weiss (1991) pointed out that in order to have a healthy society, we should first try to improve the psychological indicators of children (6).

One of the most important psychological variables among children is self-confidence. The most universal documented definition of self-confidence was first presented by Rosenberg in 1965. He described self-confidence as a favorable or unfavorable attitude towards oneself (7) and considered it to include two components: self-esteem based on self-evaluation and self-efficacy based on observing one's works (8). Self-confidence, which is the degree of approval, acceptance and feeling of value one has towards himself, is the dynamic part of one's concept of self; and social background, feedback, evaluations, expectations of society and those around him play a decisive role in its level (7). Self-confidence is a sense of inner satisfaction and has nothing to do with the outside and appearance of life. People mistakenly consider self-confidence as repeating an action and becoming an

expert in it, while self-confidence mainly deals with a continuous effort regardless of negative or even positive results (9).

Another variable investigated in this research is physical self-efficacy. Physical self-efficacy is a multidimensional construct that has received increasing scientific attention in the last few decades. Several studies have investigated the relationship between physical self-efficacy and psycho-social actions (10). Psychologists now know very well that the human psyche is directly influenced by physical conditions, and in turn, the human body and the actions of the organs are influenced by his mental and psychological space. Sports psychology researchers have also come to the conclusion that the more capable an athlete is in understanding, identifying and regulating his emotions, the more able he will be to have mental habits that make him more efficient and lead to the presentation of his best performance (11). Physical self-efficacy refers to the appropriate state of people to perform physical activities according to the existing standards (12). Achieving physical self-efficacy can play an important role in improving physical conditions and placing people in ideal conditions from a physical point of view (13).

Another variable investigated in this research is mental toughness. Mental toughness is a positive personality construct that was first noticed by Madi and Kielbasa in the late 20th century based on existential theories of personality (14). Kubasa (1979) defines mental toughness as a combination of beliefs about oneself and the world, which consists of three components: commitment, control, and struggle (15). Mental toughness can play an important role in the process of individual and group success and improving the mental conditions of people for being present in various situations. Mental toughness is an inherited or

developed psychological superiority, as a result of which the athlete a) generally confronts, better than his opponents, with the many requirements that sports impose on performance; and b) has better stability than his opponents in being determined, focused and self-confident in stressful situations (16).

Sports and games play an important role in improving the condition of children. Exercise can improve people's performance by improving their mental and physical conditions (17). Sports can have positive effects on empowering children; and provide conditions for their success (18). They play a very important role in the achievement of health, social and economic goals. Due to the fact that, during the past decades, people's opportunities to participate in sports activities have increased, researchers are looking to determine the importance of motivation for sports participation (19). Experts have suggested children's participation in Physical activities as a practical, sustainable and acceptable way for gaining benefits in emotional, cognitive, behavioral and social fields in addition to physical benefits (20). So, exercise among some groups, including children, can have especially positive and profound effects (21-23).

The lack of investigation regarding the functions of exercise and play therapy on some important psychological indicators of children has led to the neglect of the capacities of exercise and play therapy in improving children's psychological capabilities. In other words, the lack of comprehensive research in this field can lead to appropriate and desirable procedures to improve self-confidence, physical self-efficacy and mental toughness in children. With this in mind, we attempted to investigate and compare the effects of play therapy and selected sports exercises on self-confidence,

physical self-efficacy and mental toughness in children.

## **2- MATERIALS AND METHODS**

The present study is an applied research conducted with a semi-experimental design. The purpose of the study was to compare the effects of play therapy and selected sports exercises on self-confidence, physical self-efficacy and mental toughness in children. To this end, the participants were divided into one control and two experimental groups, undergoing the selected sports exercises and games.

### **2-1. Participants**

The statistical population included children aged 9 to 11 years. To carry out the research, the participants included 60 children divided into one control (group 1) two experimental groups (groups 2, and 3), each comprising 20 individuals. Group 2 was under the training of play therapy and group 3 enjoyed selected sports exercises. Subject dropout is one of the factors that can affect the results of the research. Considering that in both of the control and experimental groups of the current study, the subjects were effectively present from the beginning to the end of the research procedure, no dropout was practically observed.

### **2-2. Instruments**

Various library sources were used to collect the research literature. Library surveys are conducted in order to comprehensively collect scientific and research documents, written or non-written, that the researcher should be inspired by. The research sample was first asked to complete the research questionnaires. Then the experimental groups were exposed to their predicted activities. After that, all three groups completed the post-test questionnaires of the research.

The questionnaires of this research included the following items:

### **2-2-1. Self-confidence questionnaire**

In order to check children's self-confidence, Cooper Smith's self-confidence questionnaire (1981) was used. This questionnaire examines children's self-confidence in 25 questions. The questions are designed in a 5-point Likert scale. The reliability of this questionnaire was found to be 0.85 in Cooper Smith's research (1981). In the present study, Cronbach's alpha reliability was estimated as 0.88.

### **2-2-2. Physical self-efficacy questionnaire**

In order to check the sample's physical self-efficacy, the physical self-efficacy questionnaire (perceived physical ability) of children by Kolla et al. (2008) was used. This questionnaire examines children's physical self-efficacy in six 5-point Likert scale questions. The reliability of this questionnaire was found to be 0.89 in the study by Colla et al. (2008). In the present research, Cronbach's alpha reliability was found to be 0.82.

### **2-2-3- Mental toughness questionnaire**

In order to check children's mental toughness, Sheard et al.'s (2009) mental toughness questionnaire was used. This questionnaire examines the mental toughness of children in 14 questions scored in a 5-point Likert scale. The reliability of this questionnaire was found to be 0.88 in Sheard et al.'s research (2009). And, Cronbach's alpha reliability was calculated as 0.83, in the present research.

### **2-3. Treatment content**

The content of the 8-session play therapy training included the following steps:

Session 1: People are introduced to each other. In this meeting, in order to create a friendly relationship and a sense of

security, the games suggested by the group are played.

Session 2: in the form of role-playing games (similar to theater), people learn desirable social behaviors; they also play their favorite roles and express their dreams and ideas in the form of the assumed roles.

Session 3: The therapist explains the bell game process to the children. They are then given some cubes and a clock is set; each child is engaged in an activity (painting or building a tower) for 2 minutes, without looking up and without paying attention to anything else. If the child completes this game, he gets 10 tokens. If he performs an activity other than the intended task, he will lose one token. After playing the game three times, if he collects 25 tokens (having only 5 mistakes), he can take a prize from the treasure box.

Session 4: First, the therapist explains the game to the child. The therapist asks the child to tell him the emotions he can feel and the therapist draws them on a paper (happy, sad, angry, crying and surprised). Then they sit around a table and the therapist starts telling the story, and every time one of these feelings is mentioned, the children put a token on the paper associated with that feeling. After the therapist finishes the story, a child tells a story and tokens are placed on the feelings by the therapist and the class.

Session 5: Bubble making game; the therapist starts making bubbles in the room, most of the children start bursting them. Then a bubble maker is provided to a child and he starts making bubbles. Then the child is asked to make big bubbles by explaining that a big bubble can be made by taking a deep breath into the chest and abdomen and letting it out slowly. With this action, the therapist explains to the child that when he is angry and anxious, the brain needs more air, but the lungs do

not work well at that time. If he breathes deeply, the brain orders the heart to beat more slowly and the lungs to work better; so, when he is angry, he can take a deep breath (like making a big bubble) to calm himself down.

Session 6: Sitting and standing with the therapist's order in a direct and reverse way; Students should execute the sudden orders of the examiner immediately and in a group, and after learning, do it in reverse and then they practice the training of the previous sessions.

Session 7: People are taught good social behaviors by the use of puppets.

Session 8: A pantomime game is performed in the group and the participants give feedback about the performances. And finally, a test about the performance was taken and a general summary was provided.

The exercise program selected in this research is derived from the Spark movement program, which is related to the development of children's basic skills and includes sports, games and active creativity for children. This program proposes principles for children's physical activities, which involve children in moderate to intense activity by performing physical activities along with play and fun, and improve the child's physical health and physical preparation for a healthy life. In this program, each 45-minute session includes four parts. The program comprises 15 minutes of warm-up, then 10 minutes of play, including movement skills, after that 10 minutes of manipulation skills, and finally 10 minutes of cooling down.

## 2-4. Data analysis

SPSS statistical software was used to perform statistical analyses. Descriptive analyses of the means and standard deviations were carried out, and the average pre-test and post-test scores in the control group and the experimental groups were discussed. For the inferential analyses of the data, first, the Kolmogorov-Smirnov test was used to determine the appropriateness of the normal distribution of the posttest and pretest scores in the control and experimental groups; and then research hypotheses were tested using Analysis of Variance (ANOVA) test.

## 3- RESULTS

In order to check the distribution of research findings, the Kolmogorov-Smirnov test was used. **Table 1** shows the results of this test.

As the results show, the distribution of the scores of the research variables is normal with 95% confidence. **Table 2** shows the descriptive findings related to the research variables.

The mean and standard deviation for the pre-test and post-test scores of children in the control and experimental groups are shown in **Table 2**. As can be seen, the comparison of the pre-test and post-test scores in the control group and the experimental groups shows that the average scores on self-confidence, mental alertness and physical self-efficacy of the research samples in the experimental groups are higher than those in the control group.

**Table-1:** Kolmogorov-Smirnov test results for pre-test and post-test scores

Groups	Kolmogorov Smirnov test results		significance level (sig)	
	pre-exam	After the test	pre-exam	After the test
Self Confidence	1.283	1.127	0.074	0.081
mental toughness	0.925	1.110	0.098	0.085
Physical self-efficacy	0.842	0.869	0.121	0.101

**Table-2:** Mean and standard deviation of pre- and post-test scores

Variables	group	mean (M)	standard deviation (SD)		
		pre-test	Post- test	pre-test	Post-test
Self Confidence	Control	1.54	1.57	0.880	0.051
	Play Therapy	1.58	2.41	0.504	1.470
	Selected sports activities	1.42	2.78	0.665	1.685
mental toughness	Control	2.41	2.45	0.585	0.514
	Play Therapy	2.43	2.98	0.854	0.598
	Selected sports activities	2.40	3.14	0.515	0.685
Physical self-efficacy	Control	2.45	2.49	0.478	0.518
	Play Therapy	2.49	3.56	0.518	1.470
	Selected sports activities	2.47	3.89	0.617	1.685

ANOVA test was used to investigate the effect of play therapy and selected sports exercises on self-confidence, physical self-efficacy and mental toughness in children.

**Table 3** presents the ANOVA results regarding the effect of play therapy and selected sports exercises on children's self-confidence.

**Table-3:** ANOVA results regarding the effect of play therapy and selected sports exercises on children's self-confidence

Variable	sum of squares	Degree of freedom	average of squares	F	The significance level
between groups	48.933	2	24.467	57.988	0.001
Within groups	24.050	57	0.422	-	-
Total	72.983	59	-	-	-

According to the results demonstrated in the above table, there is a significant difference between the three groups in the average self-confidence. According to ANOVA results comparing the average self-confidence in the control group (1.57), the experimental group under play therapy (2.41) and the experimental group under sports activities (2.78), it can be concluded

that both play therapy and selected sports exercises have been effective in children's self-confidence ( $p < 0.05$ ), from while the effect of selected sports exercises seems to be greater than that of play therapy. **Table 4** shows the results of ANOVA test regarding the effects of play therapy and selected sports exercises on children's mental toughness.

**Table-4:** ANOVA results regarding the effects of play therapy and selected sports exercises on children's mental toughness

Variable	sum of squares	Degree of freedom	average of squares	F	The significance level
between groups	12.633	2	6.317	4.170	0.020
Within groups	86.350	57	1.515		
Total	98.983	59			

It is evident in the above table that there is a significant difference between the average mental toughness in the three groups. According to the ANOVA results comparing the averages of mental toughness in the control group (2.45), the experimental group under play therapy (2.98) and the experimental group under sports activities (3.14), it can be stated that

play therapy and selected sports exercises have been significantly effective ( $p < 0.05$ ), from which the influence of selected sports exercises seems to be more than that of play therapy on children's mental toughness. **Table 5** shows the ANOVA results regarding the effect of play therapy and selected sports exercises on children's mental tenacity.

**Table-5:** ANOVA results regarding the effect of play therapy and selected sports exercises on children's physical self-efficacy

Variable	sum of squares	Degree of freedom	average of squares	F	The significance level
between groups	12.033	2	6.017	6.022	0.004
Within groups	56.950	57	0.999	-	-
Total	68.983	59	-	-	-

As presented in the above table, there is a significant difference between the average physical self-efficacy in the three groups. According to ANOVA results comparing the averages of physical self-efficacy among the control group (2.49), the experimental group under play therapy (3.56) and the experimental group under sports activities (3.89), it can be stated that play therapy and selected sports exercises have been significantly effective in children's physical self-efficacy, while the mean differences suggest that the effect of selected sports exercises on children's physical self-efficacy has been more than that of play therapy.

#### 4 - DISCUSSION

Improving children's psychological indicators has always been considered as an important issue, which deserves serious attention in their growth and development (24). Improving children's psychological indicators can lead to their empowerment and provide conditions for their individual success. So, efforts to improve psychological variables in children have always been pursued by various

researchers in the field. Considering the importance of some psychological variables such as self-confidence, mental toughness, and physical self-efficacy among children, as well as the capacities of exercise and play therapy, this research aimed to compare the effect of play therapy and selected sports exercises on these variables.

The results of this study revealed that play therapy and selected sports exercises improve children's self-confidence. In other words, both play therapy and selected sports exercises can provide conditions to improve self-confidence. This issue has been addressed in various research studies, determining that exercise and participation in sports activities can lead to improving people's self-confidence (25, 26, 27). In the interpretation of this issue, it is necessary to mention that play therapy and participation in sports activities can provide a platform for improving children's self-confidence by creating a favorable condition for improving their physical health, self-satisfaction, their social interactions, and also their internal body condition, and

intellectual structure, which can also lead to the improvement in their mental conditions.

The results of the present study also demonstrated that play therapy and selected sports exercises improve the mental toughness of children. In other words, play therapy and selected sports exercises provide conditions to improve mental toughness. In the same line, Crost (2007) and Cowden (2017) indicated that participation in sports activities can provide a suitable basis for improving mental toughness of people (28, 29). It seems that by strengthening the thinking system and improving the mental conditions of children, play therapy and selected sports exercises can empower them in different situations and provide conditions to improve their mental toughness.

Another finding of the current study showed that play therapy and selected sports exercises improve children's physical self-efficacy. In other words, it should be stated that play therapy and selected sports exercises provide conditions to improve physical self-efficacy. Consistent with this finding, Vitali et al. (2019) determined that exercise can improve people's physical self-efficacy (30). Press et al. (2020) also determined that the physical self-efficacy of people undergoes changes through exercise and reaches a more favorable level (10). In the interpretation of this issue, it is necessary to mention that exercise has a favorable capacity to strengthen the physical condition of people and increase their capabilities, which can provide a basis for the improvement of their physical self-efficacy.

## 5- CONCLUSION

Considering the functions of play therapy and selected sports exercises in improving self-confidence, mental toughness and physical self-efficacy of

children, there is a need to improve the quality and quantity of sports activities as well as the development of play therapy programs in different environments around children. Such conditions can provide a favorable platform for children's physical and mental growth and, consequently, improvements in their self-confidence, mental toughness and physical self-efficacy. Also, according to the results of the present research, it is suggested to widely measure the real and true status of children's physical and sports activities with systematic evaluations, in order to fill the existing gaps in different areas in order to help the improvement of self-confidence, mental toughness and physical self-efficacy among all children.

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