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## Effect of selected physical activities on behavior problems among 3-6 years old children

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### ABSTRACT

*The aim of this study was to study the effect of selected physical activities on behavior problems among 3-6 years old children. Sixty children were randomly selected and divided into control and experimental groups. Behavior problems were assessed by PKBS-2 (Preschool and Kindergarten Behavior Scales). Gymnastic skills as selective physical activity were performed by experimental group for twelve weeks; two sessions per week. At the end of the period, both groups participated in the post test with PKBS-2. The data were analyzed with T- test. Results showed that at pre-test no significant difference was seen for the means of behavior problems between experimental and control group. But after twelve weeks gymnastic skills significant difference was observed between pre and post- test in experimental group at all behavior problems according to reports of parents. There was no significant difference in control group.*

**Key words:** Behavior problems, PKBS-2 Questionnaire

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### INTRODUCTION

The preschool years are critical in the development of basic cognitive, social behavioral. Children enter the world with many needs in order to grow properly, many child educational leaders agree that the goal of elementary education is to stimulate and guide the development of children behavior so that they will function in life activities. Caregivers, parents, and other adults, who deal with young children in some way must explore the developmental processes as they relate to the education of children [13]. Young children are active and experienced learners with a natural curiosity. They are unique individuals, eager to make sense of their world, to develop relationships and to extend their social skills. Children enter their preschool years with a significant background of learning experiences, these experiences are formed within their family and with friends. Children learn through interaction taking place between the motor, cognitive, social and emotional domains. Therefore, in physical education contributes, through movement experiences that focus on basic movement skills, to the total growth and development of all young children in social skills [21]. Preschoolers needs to master and utilize the ability to manage their emotion amongst others particularly peer groups and to meet social expectations of society at large. Preschoolers often require additional structure and support in order to regulate their emotions. During the preschool years, social competence

involves learning how to separate from parents and engage with peers in shared play activities. It is very important that children feel included, if children received the best participating actively in the earliest years of life, which has an important and positive part to play in ensuring that children feel secure and accepted by others, and have a sense of belonging. Children learn social skills by interacting with other children, they learn to give and take, to share in cooperative with adults, and objects or natural materials found in the environment. Play experiences with enjoyable opportunities provide multiple ways for children to learn a variety of different social skills and concepts. Play for young children provide an important and unique context that allows children to interact when social skills may be acquired [11]. Play is important for peer interaction; pretend play offers children opportunities to replay explore and ultimately master situations that involve intense emotional arousal, in order to regulate emotions and reduce anxiety. Free-play activities are unable to improve fundamental social skills in children between three and five years old. Therefore the physical activities program for preschoolers should instruct and aim to develop child psycho-social needs [12]. Children must be provided with numerous movement opportunities and experiences, because they learn through social skills with the environment. Preschoolers are beginning to form friendships and enjoy short group activities. Children in mixed-age classrooms have many advantages, have many opportunities to learn to be helpful and consider the needs of others [8]. There is evidence that physical activities can have a positive and profound effect of social skills. In some respects, such an effect is unique in areas of child development such as cognitive development and social development [10]. Preschoolers are highly imaginative, they love pretending to be animals, and acting out creative fantasies about these characters. Music and motor skills all add to the fun. Gymnastics should be an integral part of the physical education curriculum, offered in kindergarten through to high school and college. The values derived from gymnastics participation are numerous, including increased self-discipline, coordination, courage, self-confidence, social awareness, and perseverance [4]. Play helps children work out the rules for social interaction and allows children to be at their best and it is important for building social competences and confidence in dealing with peers [19]. Behavior problems have 2 sub-dimensions:

1. Internalizing Problems: A child displays of symptoms of fear, sadness, guilt, social withdrawal, anxiety/ somatic symptoms. This is an over-controlled emotional and behavioral problem [16].
2. Externalizing problems: Acting out, disruptive, under-controlled, and overactive behavior. The child displays symptoms such as impulsivity, aggression, anger, defiance; its interaction with peer and parents is coercive [16].

According to the researchers, it is necessary for school children to have simple communication skills such as language, smiling, eye contact and listening and to have access and cooperation skills for an opportunity to work with a group such as being a member of a group, cooperation and helping one another. For children not to gain such skills, on the other hand, causes big social risks in their preschool education period. Lobo and Winsler (2006) examined the effect of an eight-week dance program on the social competence of 40 low-income preschool children. Their results revealed significantly greater positive gains in time in the children's social competence and with regard to both internalizing and externalizing behavior problems of the experimental group compared with the control group [15]. Little evidence has been collected on the effects of gymnastics program on children's behavior problems under 6 years old. Therefore the aim of present study was to study the effect of selected physical activities behavior problems among 3-6 years old children.

## MATERIALS AND METHODS

60 preschool children from three to six years old were selected from three kindergartens and were randomly divided into control (15 girls, 15 boys) and experimental groups (15 girls, 15 boys). All subjects did not participate in any kind of sport activity before.

The pretest data were collected with parents by PKBS-2 for both groups, then gymnastics program were performed by experimental group for three months; two sessions per week for one hour and in this period control group did common activities. At the end of the period (3 months), one week after the program both groups participated in the post test with PKBS-2 were filled out separately for each child by parents again. The gymnastics educational experiences are divided into several themes; learning basic gymnastics skills such as handstands, shoulder stands, rolls and cartwheels, forward roll, backward roll, log roll, straddle roll, bridges, extensions, scales, headstand and variations, forward and back ward walking on a low –beam bar, firstly for warm up, running, jumping, catching, throwing, kicking balloons, and did back to initial mode for 10 minutes.

The Preschool and Kindergarten Behavior Scale (PKBS) was used in order to evaluate problem behaviors of subjects. This scale, which was originally prepared as a 76- items scale, which directed towards determination of behavior problems of nursery school and kindergarten children. Behavior problems consisted of the sub dimensions of being self-centered/explosiveness, attention problems/hyperactivity, antisocial behavior/aggressiveness, social withdrawal and anxiety/somatic problems. 42 of the statements present in the scale were intended to define problem behavior of the child. The items in PKBS-2 encompass separate normative information. These items are rated on a 4- point scale in which the anchor points are as follows:

0 = never/ 1 =rarely/ 2 =sometimes/ 3= often.

Behavior problems dimension mean that the rate of displaying problem behavior was high. Analysis was applied in order to provide the construct validity of the scale and Cronbach's Alpha Reliability Coefficient was 0.87. Differences between the groups were calculated with independent and dependent T- test. The SPSS package was used for the statistical analyses. A P-value less than 0.05 was considered significant.

### RESULTS

There were no differences significant between the two groups in behavior problems reported by parents in pretest. After three months gymnastic skills results showed significant difference in experimental group at all sub-dimension in behavior problems. But significant difference was not observed in control group according report of parents (Table 1).

**Table. Statistical analysis of experiment group and control group on behavior problems**

PKBS-2	group	± Sd	Mean ± Sd	p
Self –centered/explosive	Control	Per-test	13.96±3.12	0.09
		Post-test	13.0±3.36	
	Experi	Per-test	14.66±3.14	0.000
		Post-test	11.80±3.60	
Attention problems/overactive	Control	Per-test	9.53±2.62	0.702
		Post-test	9.33±2.91	
	Experi	Per-test	9.93±2.47	0.000
		Post-test	8.04±2.94	
Antisocial/aggressive	Control	Per-test	4.93±2.21	0.722
		Post-test	4.86±2.34	
	Experi	Per-test	5.03±2.02	0.000
		Post-test	3.83±1.81	
Total externalizing problem	Control	Per-test	27.73±4.54	0.310
		Post-test	27.20±5.92	
	Experi	Per-test	28.40±4.13	0.000
		Post-test	24.26±5.45	
Social withdrawal	Control	Per-test	7.63±3.09	1.00
		Post-test	7.66±2.96	
	Experi	Per-test	7.93±3.13	0.000
		Post-test	5.73±2.84	
Anxiety/somatic problem	Control	Per-test	7.26±2.44	0.363
		Post-test	7.06±1.91	
	Experi	Per-test	8.06±2.69	0.000
		Post-test	6.00±2.51	
Total internalizing problems	Control	Per-test	14.93±3.55	0.821
		Post-test	14.86±3.67	
	Experi	Per-test	15.03±4.24	0.000
		Post-test	12.46±4.08	
Problem behavior total	Control	Per-test	42.66±6.86	0.353
		Post-test	42.06±7.60	
	Experi	Per-test	43.33±6.69	0.000
		Post-test	36.73±7.45	

According to the T-test coefficients analysis between pre and post-test of the experimental group. The results showed most of the behavior problems items significantly decreased in total externalizing problems and total internalizing problems.

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## CONCLUSION

The current study has examined the effect of selected physical activities on behavior problems among 3-6 years old children. The study has shown that children who participated in the gymnastics program had significant reductions in their behavior problems- externalizing problem (self-centered/explosive, attention problems/overactive, antisocial/aggressive), internalizing problems (social withdrawal, anxiety/somatic problems). Children have more opportunities to detect the emotional states of others. Environment, practice and information guided the child's behavior. Preschoolers who are involved in a planned gymnastics and motor development program might have many opportunities to share, lead, interact, and respond to others' needs as well as their own. They learned not only to appreciate themselves, but are given a vehicle for education in the affective domain. This not only creates a positive self-image and greater social awareness for preschooler, but also develops their self-confidence and poise. To conclude, physical activity is necessary for a child's growth, it enhances physical development, cognitive development, personality development, emotional development, and the mastering of emotional and social development: children's overall development. Physical activity is the first social experience outside the family for many children; preschool allows for intensive and frequent social interaction with peers. Children are just learning to coordinate their social behavior, peer interactions. Gimpel and Holland (2003) indicated that boys of all ages are more likely to be rated by their parents and teachers as having slightly poorer social-behavioral adjustment than girls and were significantly higher on externalizing behaviors measure while girls were higher on prosocial-behavior ratings, so physical activity is suitable for this matter [10]. Social skills and behaviors required for healthy social development vary with the age of the child and both individual behavior and social outcomes are important considerations in defining socially skills behavior [17]. Children need to learn social skills; physical activity provides learning experience, and children learn to communicate their emotions and to form meaningful relationships with adults and other children becoming sensitive to others' needs and values. They also use play as a way to work through their own emotions, manage their emotions, learn self-control and share power, space, and ideas with others [19]. These findings in this study are also supported by Lobo and Winsler (2006), they examined the effect of an eight-week dance program on the social competence of 40 low-income preschool children. Their results revealed significantly greater positive gains in time in the children's social competence and with regard to both internalizing and externalizing behavior problems of the experimental group compared with the control group [15]. In addition to this, many researchers have revealed that physical activity can contribute and have a positive effect on self-esteem, mood and feelings and can decrease aggressiveness and lower anxiety and depression [1, 6, 7, 14]. Bar-Haim and Bart (2006) examine the relationship between motor abilities and social competences. Their results indicated significant associations between motor development and social scores [14]. Piek et al. (2008) investigated the relationship between motor coordination, emotional recognition and internalizing behaviors on 41 young preschool boys and girls. They applied the McCarron Assessment of neuromuscular Development, the Emotional Recognition Scales, the Wechsler Preschool and Primary Scale of Intelligence, and the Child Behavior Checklist. Their results indicated that motor ability was positively related to a child's emotion comprehension and the correlation between motor ability and anxiety/depression was significant [18]. Children need to move to play to burn their extra calories if they do not take part in play; they seek other ways of burning calories. This seeking may include bothering behaviors, they either bother themselves or others. Psycho-socialists have been recognized that children will develop a scene of guilt and failure if they are not allowed to learn and explore their capabilities. The gymnastic programs had a positive effect on the children' developments. They enjoyed the activities, they learned, and improved their social skills. It may help the teachers of young children to deal with their children especially in terms of physical education classes. A few studies have directed attention to sport socialization before six years of age. Buss et al (1980) also examined preschool activity related to personality across ages using the California Child Q Set (CCQ). In 129 preschool children (65 boys and 64 girls) at ages 3, 4, and 7, they found activity level related substantially to a set of interpersonal attributes as well as to an expected set of motoric attributes. They also found active children to be less shy, more assertive and aggressive, and less compliant than their less active peers, active children to be relatively uninhibited, restless and generally under-controlled and self-esteem and social skills improved [3]. With regard to the effectiveness of physical activity in increasing social skills and decrease behavior problems in children, suggest that more facilities and adopt the appropriate methods, the possibility of doing sport programs for kindergarten be provided. Furthermore, one solution is to improve professional preparation and in service training for practicing teachers by providing information about strategies for planning sport. And also suggest that different kinds of sport exercises such as dancing, swimming, and football, could be involved in such programs instead of gymnastics skills.

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