

FACTORS AFFECTING PRESCHOOLERS' MOVEMENT IMAGERY AND PREFERENCES

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ABSTRACT

The purpose of this study was to investigate the factors influencing children's physical imagery and preference also their social participation in the play. Of the 93 preschool centers in Rasht, 65 centers were randomly selected and a structured questionnaire for children with validity coefficient of 0.78 was used. The questions were multiple-choice, and 162 children (in the form of interviews) responded to it. In order to measure 148 children's IQ, 36 questioned Raven's test was used. Findings description of the survey showed that 62% of children tend to play passive games and 75% of them tend to play in groups. 60% of children have a positive impression of movement and 89% of them preferred to play in preschool centers than playing at the home. Analysis of research findings by chi-square test at level of $p \leq 0.05$ showed significant relationship existed between children's desire to play and their gender. There was no significant correlation between IQ and four variables including the interest in social participation in the plays, tendency to the active plays, preferred place of play and positive and negative imagery of the children to the movement plays.

Keywords: *Movement Preferences, Movement Imagery, Social Participation, IQ, Active Plays*

INTRODUCTION

Since many cultural groups in Western societies have been unsatisfied with the mainstream of sports cultures and exercising logic of them, sports and exercise psychologists have focused on essential benefits of plays (Atkinson, 2011). Modern physical education should be away from the competitive approach, direct to the use of a wide variety of plays, including intense physical activity for each student (Sattelmair and Ratey, 2009).

To play games has an important role in self-regulation and emotional, social and cognitive development (Nwokah *et al.*, 2013). It is vital for the development of spoken language skills too (Han *et al.*, 2010).

In the Singer's *et al.*, (2009) study, mothers of 2,400 children aged 1 to 12 from North America, South America, Africa, Europe, were interviewed (on the phone or face to face) to determine the daily activities of their children when they were not in the nursery or school. Finally, Singer and his colleagues concluded that the television is the most powerful source of information and entertainment outside the face-to-face relationships; all mothers agreed on the erosion of childhood where the reason was lack of free plays and experiential learning opportunities (Singer *et al.*, 2009).

Han *et al.*, (2010), in their study on the impact of the play intervention on learning vocabulary game in preschoolers at risk achieved that the group trained words with playing than the ones under vocabulary training plan, had further development in the vocabulary achievement evaluation and also in expressing words; they received the words charisma criteria; their implementation were measured by Peabody picture vocabulary test (PPVT III); They were able to have further development in the educational basis measuring device (Han *et al.*, 2010).

Understanding the priorities of the play positions, even in infancy is very useful, especially when the focus of treatment intervention have expressed in an increase in special physical competence (Bartlett and Fanning, 2003).

Hall reported that the integration of multiple intelligence concepts through the use of the physical education curriculum increased the brain functioning, resulting in the possibility of learning in a higher level (Svenningsen, 2009). Through bodily plays or self-driven activities including body motions, which

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have satisfaction and rewards in their own, the children may find opportunity to interact with the environment (Londal, 2011).

Holmes (2012) studied the activities outside the classroom, during the break, considering the influence of age, gender and the size of the playing groups on the desire to play outdoors. Holmes' results showed that the majority of boys and girls spent more time relaxing in a community with their peers; although their games was different with respect to age and gender. Older boys participated in competitive and physical activities like sports in larger groups. Youngers spent more time together, playing chess and informal activities carried out in mixed groups. Girls had more interaction with their teachers (Holmes, 2012).

On the basis of the research done by Jarret *et al.*, (2011), sand pit (and the area around it) was a favorite playground on which the girls (more than 72% of the children in the photos) consistently had dominated; Unless the sand area toys may include trucks and cars (Jarret *et al.*, 2011).

Since the 1860s summer camps in the United States attract approximately six and a half million children to themselves. The camps make opportunities for children to experience games, fun activities and social interaction with children of all ages with similar interests. Children with special needs are experiencing various benefits from the experiences of the summer camp (Clark and Nwokah, 2011).

Despite the benefits of playing for children and parents, the free time for play is significantly reduced. Children's playing are less supportive today's than between the previous generation and this is happened because of the more hurried lifestyle, the changes in family structure, the great attention to academic education and the enrichment of the leisure at the expense of losing the free and fun plays (Goldstein, 2012). Today, these changes are happening too more than ever in Iran.

Many factors are involved in the quality and quantity of children's playing games. For example, the availability of toys in childhood in relation to the children's IQ in the first three years of life. A child who has access to a variety of toys, regardless of gender, race or social class, could achieve the higher level of mental development and social interaction (Goldstein, 2012).

Rubin said that during painting, play dough, sand play, water play and puzzle activities, the unsocial games are carried out more than social games, (Lloyd and Howe, 2003). According to the researches on homes, the availability of the child's play equipment and quality of the relationship between mother and the child are the two powerful factors for cognitive development in infancy and preschool years (Goldstein, 2012). It seems a lot of behavioral aspects of mother-child interactions in plays, are associated with developmental outcomes (Gitlin-Weiner *et al.*, 2000).

Age is another important factor that influences children's play. A long history of research examining changes in play behavior over the preschool years generally indicates that unoccupied and parallel play decline over time, while associative and cooperative play increase, accompanied by an increase in pretend and socio dramatic play as children approach kindergarten age (Farran and Son-Yarborough, 2001). Cognitively, solitary plays become more developed as of aging. Robin and his colleagues reported that the play quality in 5-years children is much more complex than the smaller ones. Children 4-5 years of age participate mostly in functional solitary plays (for example, hard muscle activities) while 5- 6 years old children participate in structural solitary plays (e.g. puzzles and reading) (Lloyd and Howe, 2003). A minimum time to play happens in 4-6 years of age and the greatest may be seen in the ages of 7-9 years. Gradually, the number of play is reduced from 9 to 13 years of age. At the age of 2, the child's focus and interest average rate to a specific play lasts for just 7 minutes and at the age of 5, this continues up to 13 minutes (Ramezanezhad, 2007).

Understanding the preferences about children's active plays and factors influencing them will be helpful in designing the play environments and increasing the opportunities regarding children's interests because children and adolescents primarily participate in physical activity through physical plays and also due to the positive impact of children's play and movement on the children's all-round development and play-based teaching in preschool ages.

It seems that other factors such as gender, IQ, birth order and the parents' employment status are effective on the tendency to the active plays, social participation and children's physical imagery about a play. Therefore, it is felt worth studying on investigating these factors. The present study have developed in

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answer to the fundamental question of what factors can have a role in children's physical imagery and preferences and also in their participation in the active plays.

The Population and Sampling

Of the 93 pre-school centers, 65 centers (70%) from different areas of Rasht, were selected randomly and 162 children (83 girls and 79 boys), 5.5 to 6.5 years old, were selected as the samples.

MATERIALS AND METHODS

Methodology

A trial structured questionnaire (17 items) for children, was taken up with specialists including 5 persons in the field of physical education, 5 of psychology and one person in educational sciences to test the content validity. It distributed in two kindergartens and was criticized by tutors and headmasters. Then the questions were reviewed and reclassified; to determine the reliability of the questions (two-choice questions), they distributed between the fifteen children at the interval of a week, and the coefficient of 0.78 was achieved. The questionnaire was completed by interview to 162 children from the age 5.5 to 5.6 years (83 girls and 79 boys) who were regularly selected from preschool classes.

In order to measure a child's IQ, the Raven's test of 36 questions was used for 148 children. This test (CPM) is constructed by J.C. Raven in Great Britain in order to measure the Spearman general factor (G) and it is the best indicator of the general factor (G) in the psychologists' opinion. To answer the Raven test needs to describe the abstract materials. CPM, is the color form of the Raven test, which was developed in 1947 to test the intelligence of children 5 to 11 years of age and the adults with mental retardation (Rahmani and Abedi, 2004). Matrix (series of abstract images) creates a logical sequence of images that are the same in shape except one with some defects; the child must select the picture that completes the matrix from 6 to 8 separate images and this, requires him/her to perceive the rational upon which the model is built. Test questions are arranged from simple to difficult. In this study, the researcher was accompanied by a psychologist to assess children's IQ in a professional approach.

Social participation of children in plays (playing in groups, in pairs and solitary), the children's interest to active plays (like playing outside of class, playing with ball, playing games with their fellows and running) and the passive playing (such as painting, playing dough, puppetry, sedentary games, playing games in the classrooms and watching others playing in the class), the desire to play at home or in the preschool center, the children's imagery (positive and negative) of the physical plays and also the children's IQ are the principal variables of the research. The most part of the findings were compared descriptively in SPSS program and others were analyzed using the chi-square test at levels of $0P \leq 0.05$.

RESULTS AND DISCUSSION

Results

Results (Tables 1 and 2) showed significant relationship between gender and children's desire to active plays. 53 percent of boys tended to active plays while this level was 23 percent among girls. There was a significant relationship between children physical imagery and their mothers' employment status. 68 percent of employed mothers' children and 53 percent of housekeeper mothers' children had a positive impression of physical motions and playing. In addition, there was a significant association between mothers' employment and children's physical imagery. More desire to play was seen among children with employed mother. There was no significant correlation between any of these variables with father's employment status. The three variables (social participation in playing, gender and the place of birth) were correlated rationally with playing place preference. 78 percent of the children who prefer preschool as the top place tended to play in groups; this level is 44% for children who had chosen the home. 89% of the children (84% boys versus 94% girls) had chosen the preschool center as compared the home as a better place to play. 84 percent of children who were the first child and 97 percent of the children who were second or third child, had preferred the Preschool centers as the top place to play. Of the 162 children, 77 children had moderate IQ, 61 children higher than moderate (Excellent, high excellent, and somehow genius) and 10 of them had an IQ lower than moderate (stupid, half-retarded and retarded). A

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significant association between IQ and four variables of the interest in social participation in the plays tend to active plays, preferred play place and positive and negative perceptions of the children to physical plays was not seen. Children in all three-group IQ showed more interest in group plays than solitary or in pairs ones. They also tended to active and passive plays in an equal proportion; the difference was that the children with moderate IQ and above preferred to play running plays, play ball and in playground along with classmates but children with an IQ below moderate were tended to play passively. The majority of children preferred the preschool center as a more proper place to play than the home. Most children with an IQ above moderate and up, also a few of the children with IQ lower than moderate, had positive impression of physical plays. However, the difference between groups was not tangible. There was no significant association between parental employment status and the children's IQ. There was no significant relationship between gender and IQ; however, the association between birth order and IQ were statistically significant. The second child of the family had a higher IQ.

Table 1: Children's movement imagery and preferences

Total Percent	Frequency	Boys		Girls		Gender Subject		Row
		Percent	Frequency	Percent	Frequency			
38	61	53/16	42	22/89	19	active		
27	45	27/84	22	27/71	23	Half active	Kinds of play	1
35	56	18/98	15	49/39	41	Inactive		
75	121	72/15	57	77/10	64	Group	Social participation	2
15	25	20/25	16	10/84	9	In pairs		
10	16	7/59	6	12/04	10	Solitary		
60	97	58/22	46	61/44	51	Positive	Imagery	3
40	65	41/77	33	38/55	32	Negative	movement	
89	144	83/54	66	93/97	78	Preschool Center	Place of play	4
11	18	16/45	13	6/02	5	Home		

Table 2: Relationship between variables

IQ		Place of play		Children's movement imagery		Social participation in play		Tendency to active plays		
X ²	d.f.	X ²	d.f.	X ²	d.f.	X ²	d.f.	X ²	d.f.	
2/39	4	0/39	2	2/31	2	1/88	4	2/34	4	Employment status of father
4/59	4	5/53	1	3/85*	1	3/66	4	7/07*	2	Mothers' employment status
2/83	2	4/46*	1	0/17	1	3/26	2	20/68*	2	Gender
10/45	4	6/04*	1	1/31	2	3/94	4	3/47	4	Birth order
1/48	2					3/85	1	1/71	2	Place of play
		1/48	2	2/53	2	2/30	4	4/28	4	IQ

P ≤ *0/05

Conclusion

The results showed the significant relationship between gender and children's desire to active plays. The boys tend more to physical plays. Boys are typically more active than girls and this is reflected in their plays. As a total, girls prefer to play quieter in smaller groups; boys run around and tend to make more

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noise. Girls' plays can be competitive, but appear emotionally not physically (Goldstein, 2012). The evidences suggest that in playgrounds, boys prefer sports opportunities and they participate in more risky activities but girls tend to play with equipment or participate in less active activities like associative ones (Bourke and Sargisson, 2014). In the present study, girls tend to play girly plays like playing with dolls, playing dough and painting; in contrast, the boys were willing to play ball and running plays. Gender differences were reported in priority for selecting toys in 1930 (Parten, 1932); it was extended to Japanese, Italian, English, Dutch and American children. Katherine (1990), developmental psychologist, made association between parents' behaviors and their influencing role as the life models for children and the children's gender preferences in selecting playing equipment. The children who have chosen the gender traditional toys are likely to have maintained traditional attitudes and roles (Rheingold, 1975). Evidence from patients with endocrine disorders suggests that biological factors during early development (androgen levels) are involved in children's toy preferences (Pasteriski, 2005); researches on the order of primates (humans and gorillas and monkeys are also included) except humans expressed that boys' and girls' toy preferences are formed from instinctive factors. In a famous study by Alexander and Hines (2002), Vrvt apes (little monkeys with black face and hands in East and Southern Africa) in the age range of 2 to 18 months expressed the same gender differences in preferring toys as the evidences for human children previously observed. Typically the time percentage of touching such toys as a car or a ball by boys was more in male monkeys than the female ones. While the time percentage of touching toys like dolls and pots which are preferred by the girls were more in female apes than the male ones. The time for toys which preferred equally by boys and girls (an illustrated book and a cloth dog) had an equal use in female and male apes. These differences may have evolved on different roles of women and men (Alexander and Hines, 2002). The preference of gender-related toys seems to be appearing before determining any gender identity in children. To test this hypothesis, being interested in a doll and a toy truck was measured in 30 infants aged in the range of 3 to 8 months, using eye-tracking technology that provides precise indicators of visual attention. Gender differences in visual sentiments to gender-related toys was determined by having tend to use the dolls than a toy truck in girls and in contrast, the toy truck had been watched more by the boys. These findings suggest that the classification of Toys on the basis of "boys" and "girls" with regard to gender differences was done in accordance with the willingness to specific features of these toys such as color, shape, form or aim (Goldstein, 2012)

There was a significant association between the two variables: the children's movement imagery and preferences and their mothers' employment status. A greater number of children with working mothers had a positive impression of physical exercise and playing. Supposing mothers' employment status caused by their higher levels of education, therefore, it seems that mothers with higher education have a positive impact on children's activity levels; so they could create experiences and a positive impression on physical exercises in the child's mind. In return, the results showed no correlation between fathers' employment status and children's movement imagery and preferences and also any social participation in the plays that was opposed to the results of Tamis-LeMonda *et al.*, 2004. In their study they found that fathers with higher education had married and worked; their children's development would be happen through increasing mother-child relationship. Mothers, whose husbands were more educated and wealthy, got more points in cognitive stimulation, positive attention and sensitivity to the child. Fathers and mothers had considered their toddlers the same. Fathers were equally sensitive with positive view and displayed a cognitively motivating with no more negative controlling behavior. In addition, the negative and positive involvement of fathers was in relation to the same behavior of the mothers; the 24-month involvement of the fathers predicted the mothers' involvement with children. Level of education, income and marital status was somewhat related to parents' fostering approach (Tamis-LeMonda *et al.*, 2004).

Any difference between groups with various IQs and social participation in the play and also the tendency to active plays was not seen. Soddan and genius children participated in the plays equally, but genius children's plays are more different and solid (Ramezaninezhad, 2007). Gifted children and children with low intelligence, despite having interest to group plays used to solitary play because both of them usually are not accepted by the group, for their high ability and low ability, respectively (Khazaei, 1392).

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Children with developmental disabilities and delays often do not seem to do spontaneous or motivating activity in the plays (Gitlin-Weiner *et al.*, 2000).

There was not a significant relationship between gender and IQ which agrees with the results of experiments designed to standardizing Raven colored test in children in different Iranian cities (Farzam, 1994; Rahmani and Abedi, 2004; Rajabi, 2008). However, the association between birth order and IQ were statistically significant. The second children of the family had a higher IQ.

Most of children, who have chosen to play in preschool centers as the top place, tend to play in group plays. Several studies suggest that child-experiencing in the care centers is associated with advanced levels of social play, which makes a considerable amount of progress in children's social interactions. It has been found that the more time children spent in day care settings, more likely to develop cooperative plays which cause more social development; they also involved with structured plays, having less tendency to solitary plays and on looking behavior

Phillips *et al.*, (1987) found that positive social impacts are likely to occur when (1) the child care environment was encouraging communicatively, meaning that adults and children regularly communicate with each other; (2) The director of the center carried out by experience, and (3) the more staff at work in the center than the number of children (Hughes, 2010).

The results showed that 80% of children tend to play with their counterparts than to watch them playing and 75% of children set higher priority to play in groups not to solitary play. These findings are similar to the research results that indicate greater participation of the preschoolers in associative and cooperative plays and their less participation in the solitary play and on looking behavior (Hestenes & Carroll, 2000). As described by Farran and Son-Yarbrough, 2001, an increase in parallel playing and decrease in two-player plays characterizes the classes with a higher percentage of their children from very poor families (Farran and Son-Yarbrough, 2001)

As a result, most children, especially girls, have chosen the preschool center in contrast with home to play. Children who were second or third child of the family, as opposed to being the first child, preferred the preschool centers to play. Second children and the next children are more likely to be at higher social levels because of their interaction with the older ones.

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