

# Effects of Musical Training on Social Development of Preschool Children in Kerman City

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## ABSTRACT

**Objective:** This research is aimed at investigating the effects of musical training on social development of both male and female Kerman City preschool children in 2012-13 educational year.

**Method:** A semi-experimental-intermediary study that was carried out based on pre-test and post-test research design with control group, this research included 52 preschool male and female children, who were selected in random cluster mode in two equal test and control groups. Musical activities were completed in 20 sessions of 75 minutes each allocated to training and rehearsal in the Orff Approach at the test group. The control group was not subject to any musical training. The Vineland Social Maturity Scale (VSNS) was completed before and after the interventions by parents. Data analysis was carried out by one-way covariance statistical method.

**Findings:** Results showed that the children who attended at musical training sessions have significantly gained higher scores ( $p < 0.001$ ) than those who have not attended the same respecting their social quotient.

**Conclusions:** This is concluded that attendance in group-based musical training sessions can be effective on preschool children's social development.

**KEYWORDS:** musical training; social development; preschool children

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## INTRODUCTION

Non-musical effects of musical training are examined and the results show that they are mostly alluded to the childhood. Education in primary phases of childhood is of paramount importance in terms of sensitivity and receptivity of children from educational environments and sustainability of learning. Primary leaning is an appropriate context for children's upcoming transactions; in fact, what are learnt in the childhood are more enduring and difficult to forget (Ghasem Tabar et al., 2011). In the recent decades, musical learning has been taken into account as an effectual strategy to increase communicational, cognitive, and emotional capabilities of the children. Most trainers and experts believe that musical responses of children are the most natural reactions which play important roles in various learning respects (Noor Mohammadi, 2004).

Social development is an important aspect of growth that refers to interpersonal relationships (Seyf, 2008: 68). Social skill is a collection of learnt behaviors which enables individuals to make effective relationships with others and prevent from illogical social reactions. Social development is a balanced set of social skills and learnt adaptive behaviors. Masteries such as cooperation, responsibility, sympathy, continence, and self-reliance are among components of social development (Cartledge and Millbern, translated by Nazari Nejad (1993) cited by Amirtash, Sobhaninejad, and Abedi (2006)). Slaby and Guara (2003) interpret social skill as social compatibility and the ability to make relationship with others in various social respects. Those whose social development is flourished have achieved a level of social relationship which enables them to easily livebeside others (Massen et al., translated by Yasaei (2001), cited by Amirtash et al. (2006)).

Basic indicators of social development can be found in fondness for others, self-confidence, following peers, development of social activities, tendency to criticism and reformation, and predisposition to leadership (Amirtash et al. (2006)). Slowmowski and Dann (1996) consider social skill and recognition as a process which enables youngsters to predict and apprehend others' behaviors, control their own behaviors, and adjust their social interactions.

Although several social groups and factors impact on the social development process, *family* is more often than not the most influencing agent in social development of children (Shakeri Nia, 1997). It is the smallest, while the most important, social unit, which plays a key role in shaping children's personality and furnishing basic physical and emotional needs of the community individuals. Children's personality is directly influenced by their parents' genuine behaviors and is profiled in interaction thereto (Dillon, 2005, cited by Farrokhzad, 2008). According to Mead (1934), ego has its roots in certain social textures and enables children to make interaction with other within this framework (Farrokhzad, 2008).

The best definition out of family is to recognize it as a complex system whose life is entangled with interdependent functions of its members. When this system is incurred by such organizational changes as divorces, occupation of parents, tensions, single-parentedness, and familial disputes, social development of children may be negatively affected.

Family is the first and oldest venue for social relationships of children. In the primary years, the child-parent relationship constitutes the only existing association for the child. Child-parent interactions and emotional relations shape child's expectations and reactions in his/her social affairs. Beliefs, values, and cultural attitudes are refined and presented to the child by parents in a coherent and selected manner (Shakeri Nia, 1997). According to the conducted studies, those equipped with better social relationship masteries and higher abilities in making contacts with others are happier than those rolling in the money while having no desirable social relationships (Mirshah Jafari et al., 2002; cited by Bakhshayesh, Mortazavi, and Haeri, 2011). Human beings are social creatures who are obliged to be well-matched and compliant to their peers in order to be able to keep on their communal life. Non-compliance and non-conformity of the youth to other individuals in the society is mostly caused by their incomplete social maturity. Possession of proper and positive relationships to others is the key to human perfection (Zarei and Hassani, 2005). Much like physical and mental growth, social development is a continuous quantity that is perfected by degrees. For most people, social development is gradually gained through their lives and naturally via different experiences—or *maturity*, as it is called (Whitesman, 1986; cited by Amirtash et al, 2006).

With regard given to the complexity of social relationships in present-day communities as well as increasing number of those having problems making contacts with others, those apprehending social communications, or those confronting anxiety, depression, and social loneliness, necessity of addressing the issue of social development and the factors thereof is justified. Research datapoint out that upon occurrence of such issues as delinquency, educational shortfall, and school nonconformity, weakness in social development is witnessed (Lieberman, 1989; cited by Amirtash et al, 2006).

In their investigation, Larijani and Razzaghi (2008) addressed application of performance art in social development of intellectually disabled students. They found that performance art-aided group training socially develops the intellectually disabled children with a 99-percent level of significance.

This is a semi-experimental study with test and control groups using random sampling method ( $n=36$ ). Population of the study was all trainable, intellectually-disabled Tehrani students of 9 to 11 years of age. Data analysis was carried out by variance analysis method and repetitive measurement ( $p=0.001$ ,  $F=7.5$ ).

Akhavan Tafti and Mousavi (2007) investigated the relationship between social and lingual development of female students at the first stage of Qazvin's elementary schools. Research's methodology was causal-comparative, in which 30 female students at the first stage of elementary school were randomly selected. Vineland social maturity scale and TOLD-P-3 test of language development were carried out to examine three semantics, syntax, and phonology areas. Pearson correlation test resulted in the correlation amount of 0.59 at 0.001 level of significance between social and lingual developments. Semantics correlation test amounted to 0.48 at the level of significance equal to 0.01. In addition, syntax correlation test came up to 0.58 at the level of significance equal to 0.001.

Consequently, since importance of social development in peoples' lives affirms effectiveness of group musical training, the present study is aimed at investigating the impact of musical training on social development of Kerman City's female and male preschool students in the 2012-13 education year.

Followings are the research questions:

1. Does group musical training of preschool children cause an improvement of their social quotient as compared to the control group?
  - 1.1. Does group musical training of preschool children cause an improvement of their socializations compared to the control group?
  - 1.2. Does group musical training of preschool children cause an improvement of their contact-making ability as compared to the control group?
  - 1.3. Does group musical training of preschool children cause an improvement of their self-leadership as compared to the control group?

## METHODOLOGY

This research is a practical study in its objective, for which a pseudo-tentative methodology together with pretest and post-test states is used. 52 children were randomly selected and divided into training group and control group, the members of the former of which were trained Orff Music for 20 weeks (one session of 75 minutes per week; one week for training and one for rehearsal) and the member of the latter were not exposed to any training session. After termination of the twenty sessions, both test and control groups were subject to post-test. Statistical analysis of the results was carried out by covariance analysis where all its suppositions were taken into account: normal distribution, linearity, reliability of covariant variable, homogeneity of variances, and reliability of regression gradient. Diagrams of normal distribution and linearity suggested non-violence, just as homogeneity of variances and reliability of regression gradient did, as shown in the Tables 1 and 2.

Table 1: homogeneity of variances

Variables	F	First intergroup degree of freedom (df1)	Second intergroup degree of freedom (df2)	Level of significance
Social quotient	0.09	1	50	0.79
Socialization	0.29	1	50	0.59
Contact-making ability	0.092	1	50	0.76
Self-leadership	3.82	1	50	0.06

Table 2: homogeneity of regression gradient

Variables	Sum of squares	F	Level of significance
Social quotient	694.16	1.02	0.31
Socialization	2.07	1.65	0.2
Contact-making ability	0.12	0.068	0.79
Self-leadership	3.31	0.88	0.35

**Statistical Community, Samples, and Sampling**

Statistical community of this research includes all Kermani preschool children in 2012-13 educational year. One preschool center was randomly selected and sampled by cluster random sampling method. In this research, from among all preschool centers from Kerman Province, one center was firstly selected. Then, 26 students were randomly selected for test group and the same number of students for the control group.

**Instruments of the Research**

*Vineland Social Maturity Scale*(1935) was utilized for measuring social maturity. It consists of 117 articles and its questions are developed with regard to social maturity or individuals’ abilities to take care of themselves and meet their own needs. Questions are age-based and include birth to 25 years of age. Scale questions are propounded on the ground of eight abilities, including: SHG-Self Help General, SHE-Self Help Eating, SHD-Self Help Dressing, SD-Self-Direction, OCC-Occupation, COM-Communication, LOC-Locomotion, and SOC-Socialization. In this test, a total of 57 items were presented to the parents of the children from 3 to 15 years of age. Total scores of the questions for children less than three years of ages were taken into account for all subjects. Vineland Scale has been normalized in Iran. Zamyad et al. (1996) calculated the test’s reliability using test-retest method, whose results were reported to be higher than 0.9 in all subscales. Criterion-related validity was calculated to be between 0.69 to 0.75 (Crossian, 2009). Reliability coefficient of Cronbach’s alpha was also 0.85.

Table 3: A summary of musical training package inOrff Approach

Sessions	Training axes	Sessions	Training axes
Before the program	Pre-test	5 <sup>th</sup> session	Teaching notes’ traction and their written form
1 <sup>st</sup> session	Acquaintance and communication Familiarity with sound characteristics		
2 <sup>nd</sup> session	Teaching notes’ sequence and their names	6 <sup>th</sup> session	Rehearsing notes’ traction on a new piece Developing rhythm recognition as well as emotional and motional precision
	Teaching thrumming Rehearing concentration Musical games to improve audition and mental accuracy	7 <sup>th</sup> session	Familiarity with silence in music
3 <sup>rd</sup> session	Teaching <i>de majeur</i> key Teaching notes on five carrier lines Improvement of pitches recognition and quality of sounds	8 <sup>th</sup> session	Teaching new music Developing imagination, visualization, and creativity.
		9 <sup>th</sup> session	Group rehearsals for more coordination
4 <sup>th</sup> session	Teaching a short lyrics-included piece Developing motional skills, body coordination, rhythm recognition, and motional precision	10 <sup>th</sup> session	Performing a demo concert for parents
		After the program	Post-test

**Findings**

Descriptive findings of this research include statistical indices such as frequency, average, and standard deviation.

Table 4: distribution of studied units in terms of personal variables

Personal variables	Frequency	Percentage
Gender	Female	26
	Male	26
Group	Training	26
	Mozart	26
Number of the family’s children	1	19
	2	24
	More than 2	9

According to the table 4, the total number of subjects attending at the research was 52, including 26 females and 26 males. Both groups attending at the study, i.e., test and control, include 13 females and 13 males.

The personal variables which were measured in this study are the number of family’s children and academic level of the father of the family. 36.5 percent of the children were the single offspring of the family. 46.2 percent of the children were coming from two-kid families and, finally, 17.3 percent of the children were living in the families with more than two kids.

Descriptive findings are demonstrated in Table 5. Scores averages of testing group and control group in social development have no significant difference in pretest; however, musical training group could gain higher scores in social quotient, socialization, mastery in communication, and self-leadership compared to control group.

Preliminary investigations to assure non-violence of assumptions' normality, linearity, homogeneity of variances, homogeneity of regression gradients, and reliability of covariance variables were also carried out (Tables 1 and 2). As seen in Table 6, effect of social quotient pretest ( $p<0.001$ ,  $F=58.05$ ), socialization ( $p<0.001$ ,  $F=20.45$ ), and mastery in communication ( $p<0.001$ ,  $F=55.51$ ) have been statistically effective. In other words, pretest score has had an effect in posttest, and some of variance of posttest scores has been impacted by pretest. Although, in self-leadership variable ( $p<0.24$ ,  $F=1.37$ ), it is not significant and pretest has not been significantly effective in post-test scores.

Afterwards, to examine inter mediatory effect on the dependent variable, pretest effect was omitted as covariate variable. After pretest scores were adjusted, a significant difference between two test and control groups in score average of social quotient ( $p<0.001$ ,  $F(49.1)=304.52$ ,  $\text{Eta-square}=0.861$ ), socialization ( $p<0.001$ ,  $F(49.1)=221.97$ ,  $\text{Eta-square}=0.891$ ), mastery in communication ( $p<0.001$ ,  $F(49.1)=513.26$ ,  $\text{Eta-square}=0.913$ ), and self-leadership ( $p<0.001$ ,  $F(49.1)=91.02$ ,  $\text{Eta-square}=0.65$ ) was obtained.

Table 5: Average of subjects' scores in pre- and post-tests

Indices	Tests	Testing group		Control group	
		Average	SD	Average	SD
Social quotient	Pretest	180.68	23.5	183.81	21.8
	Posttest	243.48	22.20	178.65	17.92
Socialization	Pretest	7.81	0.90	7.73	0.95
	Posttest	7.80	0.4	5.11	0.92
Mastery in communication	Pretest	8.92	0.77	8.98	0.82
	Posttest	6.98	0.31	4.13	0.83
Self-leadership	Pretest	1.38	0.73	1.57	0.52
	Posttest	4.8	1.24	2.00	0.86

Table 6: Covariance analysis in research variables

Tests		Sum of squares	Mean of squares	F	Level of significance	Eta-square	Average adjusted control	Average training testing
	Posttest	57923.14	57923.14	304.52	0.001**	0.861	177.6	244.5
Socialization	Pretest	8.45	8.45	20.45	0.001	0.295	-	-
	Posttest	91.70	91.70	221.97	0.001**	0.819	5.13	7.79
Mastery in communication	Pretest	10.51	10.51	55.51	0.001	0.531	-	-
	Posttest	97.17	97.17	513.26	0.001**	0.913	4.15	6.88
Self-leadership	Pretest	1.57	1.57	1.37	0.24	0.027	-	-
	Posttest	103.96	103.96	91.02	0.001**	0.65	1.97	4.83

\*\*  $p<0.001$

According to the average adjusted scores of social quotient scores, i.e., 244.5, as compared to that of control group, i.e., 177.6, Eta-square obtained for each variable indicates that group musical training caused an increase in social quotient in training group. Effect/difference amount is equal to 0.861 and 86.1 percent of total variance of social quotient scores verifies musical training. Therefore, the answer to the first research question "Does group musical training of preschool children cause an improvement of their social quotient as compared to the control group?" is positive. Effect of musical training, in fact, is the reason for differences in average of posttests as to pretests.

Socialization indicates eta square equal to 0.819, which, according to average adjusted socialization scores of testing group (7.79) as to that of control group (5.13), is 81.9 percent of personal differences in socialization post-test scores, is associated with musical training. Therefore, the answer to the question 1.1 termed as "Does group musical training of preschool children cause an improvement of their socialization as compared to the control group?" is positive. Effect of musical training is, in reality, the reason for average differences of posttests as to pretests.

Mastery in communication indicates eta square equal to 0.913, which, according to average adjusted mastery-in-communication scores of testing group (6.88) as to that of control group (4.15), is 91.3 percent of personal differences in mastery-in-communication post-test scores, is associated with musical training. Therefore, the answer to the question 1.2 termed as "Does group musical training of preschool children cause an improvement of their communication ability as compared to the control group?" is positive. Effect of musical training is, in reality, the reason for average differences of posttests as to pretests.

Self-leadership indicates eta square equal to 0.65, which, according to average adjusted self-leadership scores of testing group (4.83) as to that of control group (1.97), is 65 percent of personal differences in self-leadership post-test scores, is associated with musical training. Therefore, the answer to the question 1.3 termed as "Does group musical training of preschool children cause an improvement of their self-leadership as compared to the control group?" is positive. Effect of musical training is, in reality, the reason for average differences of posttests as to pretests.

## DISCUSSION AND CONCLUSIONS

The chief purpose of this research was to investigate the impact of musical training on social development of Kermani preschool children. With regard to negating effects of pretest, this can be stated that musical training (Orff, in this research) has been effective in increasing children's social development. One-way covariance analysis as used to obtain the answer to research questions. After pretest's effect were negated, a significant difference was observed between scores of the subjects in control group in social development in the level of  $p < 0.001$ . In other words, score of testing group in these four variables was higher than control group as a result of musical training. Examination of averages in two groups indicates that posttest score of testing group is increased as compared to that of control group. This is, therefore, safe to assert that musical training provokes increased scores of social quotient, socialization, communication, and self-leadership in testing group. Consequently, the answer to the research question "Does group musical training of preschool children cause an improvement of their social development, socialization, communication, and self-leadership as compared to the control group?" is positive. This is in line with Amirtash et al. (2006), who believed that attendance of people in group activities is effective on their social development, Larijani and Razzaghi (2008), who addressed application of performance art in social development of intellectually disabled students, and Akhavan Tafti and Mousavi (2007), who found a positive relationship between social and lingual development of students at the first stage of Qazvin's elementary schools. To delineate this finding, this is to note that group games and tasks calls for cooperation, tolerance, and adaptability to others—the elements which may play a role in children's social development. According to this research, thus, musical training has a significant impact on social development of preschool children. Importance of education and training in preschool periods is presently taken into more stringent account than before (Yazd Khasti, 1998). Aliyeh Nasri (2000) indicated in her research that the students who have passed the preschool period in relevant educational centers are equipped with more social compatibility than those who have not passed the same. Moreover, passing preschool period stimulates learning (Mohammadi, 1995), and educational progress and social development (Sahebi, 2000). Education before elementary school through environmental enrichment enables children to achieve new perceptive and mental experiences which are most probably unfeasible to be gained in general familial atmospheres. Therefore, education before formal schools has found vital importance and many countries have focused their attention thereon. Since children are in constant give-and-takes with the environment, the more enriched and user-friendly the environment, the higher the impression of the children from the environment. The interval from three to six years of age is the span in which the personality shapes. In addition, the prominent function of the education in preschool years is making children acquaintant with social life (Yazd Khasti, 1998). Since musical training is effective on cognitive and social development of children especially in preschool periods, it can be taken advantage of in assisting children to grow socially and cognitively parallel with other preschool training courses.

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