

Effects of Paraverbal Music Therapy on Emotional Intelligence in Young Children: An Experimental Study

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Abstract: Nowadays music becomes more interesting because some of its feature such as helping children to be able to express emotion ,regulate emotion and communicate. It was a randomized controlled trail, parallel designed. Eligible participants were student between 10 to 12 years age in Iran .Paraverbal music therapy has been used as an intervention for the present study. *Objectives:* The objective of our study was to determine the relationship between music therapy and emotional intelligence dimensions under paraverbal music therapy intervention with respect to emotional intelligence for young people. In addition, it was compared the effect of music therapy on improvement of male's and female's total emotional intelligence score in young people. Participants were divided in to two groups, experimental group who entered to intervention and control group who just asked to study an easy book about musical instrument .Participants, parents, therapists and those assessing the outcomes were blinded to group assignment. Between participants, a total of 100 students (boy=50, girl=50) with the lowest scores in BarOn emotional intelligence measurement for young people short version, employee in the present study. *Results:* it shows that paraverbal music therapy improves emotional intelligence in children. However; there was no significant difference between mean value on emotional intelligence level for male and female after music therapy. *Conclusion:* Music therapy can be used to increase emotional intelligence in children whose emotional intelligence suffered by some problem or can be improved through training and remedial programs as well as through therapeutic interventions.

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1. Introduction

The concept of emotional intelligence has, in the past decade, become increasingly popularized and has been promoted as capable of solving most personal and social problems. Goleman's two popular books, published in 1995 and 1998 respectively, 'Emotional Intelligence' and 'Working with Emotional Intelligence' brought the concept to the popular media and espoused emotional intelligence as an insightful, revolutionary new perspective on society's ills and work success. Complementary to this 'revolutionary' perspective on intelligence, but far less populist, was Gardner's (1983) theory of Multiple Intelligences, as published in his book, 'Frames of Mind.' Gardner (1983) argued that our notion of human intelligence remains limited and proposed eight different forms of intelligence, including inter- and intrapersonal intelligence. Both these authors helped to spark and add to the general interest in emotional intelligence as a viable, independent concept.

In 2004, Mayer, Caruso and Salovey defined emotional intelligence as: the capacity to reason about emotions and of emotions to enhance thinking includes the abilities to accurately perceive emotions, to access and generate emotions so as to assist thought, to understand emotions and emotional knowledge, and to reflectively relegate emotions so as to promote emotional and intellectual growth. These

authors, consequently, created a four-pronged, hierarchical model consisting of four related abilities. Of these four abilities, perceiving and using emotion (Experiential Emotional Intelligence) are considered the more fundamental, while understanding and managing emotions (Strategic Emotional Reasoning) are the more sophisticated and advanced of these emotional skills. Despite variation in the interpretation and conceptualization of emotional intelligence, for the most part, definitions of emotional intelligence include at least one of the following elements: the ability to recognize and understand emotions, the ability to understand how others feel and to relate to them, the ability to manage emotions and the ability to generate positive emotions that are self-motivating (Bar-On, 2006). Emotional intelligence concerned with understanding oneself and others, related to people, and adapting to and coping with the immediate surroundings which increases one's ability to be more successful in dealing with environmental demand (Bar-On & Parker, 2000. Emotional intelligence is such an important factor that the emotional capabilities of which is vitally importance in making effective relations.

Emotional intelligence can be applied to expressing the quality of relating, understanding people's emotions, sympathizing with others and being able to exploit a favorable mood. In fact this

intelligence includes identifying one's own feelings as well as others and applying it to make wise decision in the daily life. Researches related to emotional intelligence and music therapy in children are not remarkable, but it is an important area to study. Huang (2006) investigated in a study the correlation between music therapy and emotional intelligence concepts. In order to understand deeply about the music course in the teachers and students, actions research was imperative. Therefore, the study divided into qualitative and quantitative research two parts: In the quantitative part, using the emotional rating scale to pretest, posttest and working sheets to analyze all of the data which is to explore the music therapy concept is effective to the encouragement of emotional awareness. The other part that was in qualitative, the students show the positive feedback in four parts from their working sheets, they were: emotional awareness, emotional expression, emotional regulation and emotional utilization. Other study shows that the effect of music therapy on improving emotional intelligence was notable. In the other study, Goldberg; McNeil and Binder (1988) compared the therapeutic processes in one type of creative arts group psychotherapy, music therapy, with verbal group psychotherapy. Sixty-one short-term inpatients ranked group psychotherapy curative factors and completed satisfaction ratings. Therapists rated 201 group therapy sessions— 109 music therapy and 92 verbal therapy. Statistical analysis revealed that patients highly valued both group formats. The mean curative factor rankings for both groups included cohesiveness, instillation of hope, and altruism among the most helpful factors. Therapists' ratings indicated qualitative differences between the two groups. Music therapy involved more therapeutic interaction among patients and emotional expression, whereas verbal therapy emphasized concrete problem solving. A study of 13 hospitalized patients diagnosed with "adjustment reaction to adolescence" reported a significant increase in mood recognition, group cohesion, and improved self-esteem with the use of a music therapy program (Henderson, 1983). Several studies include the use of music therapy as a medium for self-expression. For example, Anshel and Kipper (1988) investigated the effects of group singing on trust and cooperation. Ninety-six adult males were tested and results indicated group singing stimulated, perhaps even promoted, trust and cooperativeness. Standley (1996) found that music activities acted as a reinforcer and could be beneficial to overall academic and social behaviors. More recently, Robb (2000) studied the effect of music therapy on the behavior of hospitalized children and found that music elicited significantly more social engaging behaviors than other hospital activities.

Music therapists use music to increase the child's awareness of himself or herself and others, improve communication skills, and help improve the child's self-concept by teaching him or her skill that is significant to others. Music therapy goals for children could be based on the special needs of the children, and music activities could promote concentration, teamwork, self-esteem, and self-expression, inter personal relationship, anxiety, self management skills (Fujioka, 2005). [Dena and Hilliard (2008) found that the inclusive and engaging nature of music-based therapeutic experiences provides children with a developmentally appropriate way to address a variety of needs. Broh (2002) showed that students who participated in musical activities talked more with parents and teachers, and their parents were more likely to talk with friends' parents. She concluded that these social benefits were likely to lead to higher self-esteem in the children in turn leading to increased motivation and self-efficacy. A study by the Norwegian Research Council for Science and Humanities supported this finding a connection between having musical competence and high motivation which led to a greater likelihood of success in school (Lillemyr, 1983). There were high correlations between positive self-perception, cognitive competence score, self-esteem, and interest and involvement in school music. Whitwell (1977) drew similar conclusions and argued that creative participation in music improves self-image, self-awareness, and creates positive self-attitudes. Similar findings have been found with urban black middle school students (Marshall, 1978) and children of low economic status (Costa-Giomi, 1999). It would appear that success in music can enhance overall feelings of confidence and self-esteem increasing motivation for study more generally. Research in Switzerland showed that increasing the amount of classroom music within the curriculum did not have a detrimental effect on language and reading skills despite a reduction in time in these lessons (Spychiger, et al., 1993; Zulauf, 1993) and there was an increase in social cohesion within class, greater self-reliance, better social adjustment and more positive attitudes in the children. These effects were particularly marked in low ability, disaffected pupils (Spychiger, et al., 1993). Harland (2000) showed that the most frequent overall influences on pupils derived from engagement with the arts in school were related to personal and social development. In music there were perceived effects relating to awareness of others, social skills, well-being and transfer effects. Variations in response between schools related to the degree of musical knowledge and experience that the pupils brought to the school curriculum. Some students perceived the benefits of music classes in being listening to music

and the development of musical skills while others referred to the sheer fun and therapeutic nature of music, how it gave them confidence to perform in front of others, how it facilitated group work and how it enabled them to learn to express themselves. Those who played instruments mentioned an increase in self-esteem and sense of identity. Tolfree and Hallam (in preparation) also reported a sense of achievement, increased confidence and the provision of an alternative means of communicating feelings for children aged 9-17 in relation to playing an instrument. They also spoke of enjoying playing with friends and the frustrations that they felt when practicing alone when they were unable to get things right. Two studies researched the perceived benefits of school band participation in the USA. The benefits included accomplishment, appreciation, discipline, fun, active participation and maturing relationships (Brown 1980). 95% of parents of non-band participants believed that band provided educational benefits not found in other classrooms and 78% agreed that band was more educational than extra-curricular. Band directors talked in general terms about the benefits of discipline, teamwork, co-ordination, development of skills, pride, lifetime skills, accomplishment, cooperation, self-confidence, sense of belonging, responsibility, self expression, creativity, performance, companionship, building character and personality, improving self-esteem, social development and enjoyment. In a follow up study (Brown, 1985), 91% of non-band parents, 79% of non-band students, 90% of drop-out band parents and 82% of drop out band students agreed that participating in a band builds self-esteem, self confidence and a sense of accomplishment. Similarly, in the UK, peripatetic instrumental teachers working in schools reported considerable benefits of learning to play an instrument including the development of social skills; gaining a love and enjoyment of music; developing team-work; developing a sense of achievement, confidence and self-discipline; and developing physical co-ordination (Hallam and Prince, 2000). Being involved in the extra-curricular rehearsal and performance of a school show has been shown to facilitate the development of friendships with like-minded individuals and make a contribution to social life through a widespread awareness of the show by non-participants (Pitts, 2007). Such participation increased pupils' confidence, social networks and sense of belonging, despite the time commitment which inevitably impinged on other activities. Research in the USA has also shown that involvement in group music activities in the high school helps individuals learn to support each other, maintain commitment and bond together for group goals (Sward, 1989). Reflecting on previous and current

group music making activities, university music students reported benefits in terms of pride in being an active contributor to a group outcome, developing a strong sense of belonging, gaining popularity and making friends with 'like-minded' people, enhancement of social skills, and the development of a strong sense of self-esteem and satisfaction. Students also reported enhanced personal skills facilitating the students' personal identity and encouraging the development of self-achievement, self-confidence and intrinsic motivation. A further study with non-music students who had previously participated in musical groups established similar benefits but there was a greater preoccupation with the impact of group music making on the self and personal development. Students reported that active involvement in music helped them develop life skills such as discipline and concentration and provided an outlet for relaxation during demanding study periods (Kokotsaki and Hallam, 2007; in preparation). Within small musical groups the social relationships and the development of trust and respect are crucial for their functioning (Davidson and Good, 2002; Young and Colman, 1979). For long-term success rehearsals have to be underpinned by strong social frameworks as interactions are typically characterized by conflict and compromise related mainly to musical content and its co-ordination, although some interactions are of a more personal nature (e.g. approval). (Young and Colman, 1979; Murningham and Conlon, 1991) The smaller the group the more important personal friendship seems to be. Music is seen as a source of support when young people are feeling troubled or lonely, acting as a mood regulator, helping to maintain a sense of belonging and community (Zillman and Gan, 1997). Its affect on moods at this time can be profound (Goldstein, 1980). It is also used in relation to impression management needs. By engaging in social comparisons adolescents are able to portray their own peer groups more positively than other groups in their network and are thus able to sustain positive self evaluations. Music facilitates this process (Tarrant et al., 2000). In addition to developing personal and social skills, music may also have the capacity to increase emotional sensitivity. Resnisow et al. (2004) found that there was a relationship between the ability to recognize emotions in performances of classical piano music and measures of emotional intelligence which required individuals to identify, understand, reason with and manage emotions using hypothetical scenarios.](Hallam, 2000).

The main goals of education system for children are to help them to achieve their personal, educational, social abilities (Mayer and Salovy 1990, Bar-on 2006). The purpose of this paper is to explore the influence of music therapy on improvement of

emotional intelligence in young people. The first objective is to determine the relationship between music therapy and emotional intelligence dimensions under paraverbal music therapy intervention with respect to emotional intelligence for young people. The second objective is to compare the effect of paraverbal music therapy on improvement of male's and female's emotional intelligence score in young people.

2. Material and Methods

It was a randomized controlled trial, a control group for comparison and randomization procedures for group allocation with convenience (10 to 12 years of age) double-blind, parallel group and study conducted in Iran. Eligible participants were all young children between 10 to 12 years of age with the lowest score of emotional intelligence according to BarOn Quotient inventory (In order to show the best effects of intervention on children) and whose parents were completely satisfied for participation of their children in the present study. The study took place at two halls of two the schools in SHIRAZ (name of the city in IRAN). From March 10th to March 30th 2009. Those halls and quiet halls, had suitable environment for our study and they were nearby student classes so it made participation in the study more easy for them. A total of 100 children were chosen to the experimental and control group (boy=50 and girl=50). Researcher has chosen sample size according to table for determining sample size from a given population (Krejcie & Morgan, 1970). Then, they randomly divided in to the control and experimental group. Next, pre-test for experimental and control group done. Experimental group has given intervention while control participants just asked to study an easy book about different kind of musical instruments for children. Finally, post-test separately for each group (experimental and control group) conducted.

The measurement which has been used is BarOn Emotional Quotient Inventory: Youth Version short form (BarOn EQ-I: yv(s)) which is an easily administered self-report instrument to assess emotional intelligence in young people aged 7 to 18 years. Youth Version short form (Bar-On & Parker, 2000) is a 30 item self-report instrument designed to measure emotional intelligence in young people age seven to eighteen years. It consists of the following six scales: intrapersonal, interpersonal, adaptability, stress management, positive impression and total EQ. According to Pfeiffer (2001), the inventory is geared for fourth grade reading level and takes about 25 minutes to complete. The instrument uses a 4-point Likert style format (very seldom true, seldom true, often true, and very true) and summons self-appraisals about having fun, ease at telling others how you feel

or talking about deep feelings, the importance of friends, and knowledge about how other people are feeling. The age of interest in this study is the 10-12 year old groups. By examining the individual scale scores one can pinpoint specific strengths and weakness of a responder's EQ. Furthermore, an overall level of EQ (total EQ scale) is retrieved using this measure. It is necessary to maintain that due to conducting this study in Iran, translation of BarOn EQ-i: yv and following that calculation of reliability for the test were necessary. Researcher has translated the questionnaire to Persian (Iranian language). According to the psychometrics judgment there was no trans cultural differences between translated questionnaire and original one. Therefore, after calculation of validity and reliability for test, it has been used to measure emotional intelligence in children in, SHIRAZ, Iran. With respect to the face validity and content validity which have been calculated by BarOn & Parker (2000), and Correlation calculated between judgments of experted persons (which have been done by researcher) the validity of the test was determined to use in Iran and it was 0.732 (agreement coefficient). And in the present study to assess the reliability of instrument Cronbach's alpha has been calculated. After translation of the instrument to Persian language Cronbach's alpha reveals a value (α) of 0.95.

Paraverbal music therapy has been used as intervention method which is a method of psychotherapy developed by Evelyn Heimlich (1965, 1972, 1980, 1983, and 1985) which has been used for the present study. As implied by its prefix, "paraverbal" music therapy utilizes both nonverbal and verbal channels of communication, and employs various expressive media (viz, speed, language, music, mime, movement, psychodrama, painting, and drawing) in unorthodox and nontraditional ways. Its main purpose is to gratify the expressive communication and therapeutic needs of the client as they are manifested from moment to moment. Paraverbal music therapy has been used primarily with children who have emotional communication problems that are not responsive to verbal method of therapy. This includes children with various diagnoses including psychosis, emotional disturbance, mental retardation, learning disability, medical illness, etc. This method is also used with the mother-child dyads and with developmentally disabled individuals of various ages. The basic goal is to fulfill the clients' basic emotional needs to develop a sense of self, to foster self expression and communication, to provide relief from painful emotions and to eliminate symptoms. The paraverbal music therapy session contains four main procedures and stages: observation, maneuver, shift, and

encounter. Observations, planning the program (maneuver), performance (shift), evaluation (encounter) were the main principle of intervention to reach to our aim (improving emotional intelligence dimensions). Each member of team was responsible for one stage. They were child psychologists who have taught paraverbal music therapy stages. Each group of participant consists of 10 children, one therapist who took music therapy for 20 days, each days 45 minutes. Before starting the intervention, according to the results of emotional intelligence test, we knew that which item of emotional intelligence suffered by problem in children. Therefore we could focus on their main EQ problem. The first session of intervention spent to introduce research team and children group to each other. Introducing persons was an important point because it could cause good relationship between them. Exact observation of children during therapy to detect degree of their promotion was the first stage. The primary plan and chart was designed according to observation and EQ test. The program was dynamic. The general rule for each session consisted of: starting with music, free movement and singing for 15 minutes. They followed some questions asked through signs then 15 minutes of free playing and again free Movement and signing with music for 15 minutes. At the end of each day of intervention, team was planning how they should programming next day. For example, if according to the EQ test and observation one child in the group could not express his expression, therapist would plan a program for him to be more include in children group by teaching him how he should express his emotion while music is playing (maneuver). Then, next day, they would observe again if there was not enough emotional expression between child and other people in the group, therapist would intervene with other way such as asking him to dance more when music is playing (shift). Finally, general evaluation of EQ dimensions of children when they are acting in group, if those were not appropriate again planning and helping him (encounter). All participants and their parents were kept blind to the aims of intervention. They were told it is a part of new exercise program in the school.

3. Results

The data was entered systematically in Excel. The SPSS software was used to analyze the data. The alpha level, $\alpha < .05$, was used for all the statistical tests. Covariance analysis conducted in order to determine means difference in level of emotional intelligence dimensions in young people after intervention.

Table 1: Analysis of covariance summaries for pre to post intervention on emotional intelligence dimensions in young people.

Source	Type three Sum of Square	Mean Square	F	df	Sig	Partial Eta Square
EQ A*	3.059	3.059	.524	1	.014*	.61
Error	559.995	5.833				
Total	14462.000					
EQ B*	6.107	6.107	1.172	1	.001**	.10
Error	500.118	5.210				
Total	27249.000					
EQ C*	9.559	9.559	1.589	1	.000***	.14
Error	577.648	6.017				
Total	14588.000					
EQ D*	22.550	22.550	2.741	1	.000***	.20
Error	789.645	8.225				
Total	31933.000					
EQ E*	29.620	29.620	.879	1	.000***	.34
Error	2627.899	33.691				
Total	273534.000					
EQ F*	7.774	7.774	.280	1	.000***	.25
Error	2664.775	27.758				
Total	24436.000					

* $p < .05$, ** $p < .01$, *** $p < .001$

EQA (intrapersonal dimension) EQB (interpersonal dimension) EQC (stress management) EQD (adaptability) EQE (total emotional intelligence) EQF (positive impression) (According to the BarOn EQ-i: yv).

Analyses of covariance summaries for pre and post intervention on emotional intelligence dimensions in young children were calculated and there was significant difference between means of pre and post intervention in control and experimental groups on all dimensions of emotional intelligence in young people. Partial Eta Square observed reveals percentages of changes in emotional intelligence dimensions which were the results of music therapy.

To determine significant differences between means value of two groups of sample (male and female) t-test was computed.

Table 2: Comparison between means of different gender on total emotional intelligence in young people after intervention (N=25).

	Boys	Girls	t-value	Sig
	Means	SD		
	Means	SD		
Post-test	52.96	6.60	.652	.517
	54.00	4.46		
	.625	.517		

There was no significant difference between mean of deferent Genders in young people on total emotional intelligence after intervention (music therapy) at level $\alpha < .05$ of significant. [$t(48, 2) = 1.392, p=.170$].

4. Discussions

Current experimental study found that those children who had received 20 days of music therapy demonstrated improvement in emotional intelligence dimensions scores. Researches in this area are not notable and still need to provide more study and information about relationship between music therapy and emotional intelligence in children. Lawes and Woodcock (2000) believe that music therapy is very effective in managing aggressive and self-injurious behavior which is common between learning disable children. Nayak; Barbara; Shiflett; Agostinelli (2000) shows the efficacy of music therapy techniques as an aid in improving mood and social interaction after traumatic brain injury or stroke. Eighteen individuals with traumatic brain injury or stroke were assigned either standard rehabilitation alone or standard rehabilitation along with music therapy (3 treatments per week for up to 10 treatments). Pretreatment and post treatment assessments of participant self-rating of mood, family ratings of mood and social interaction, and therapist rating of mood and participation in therapy were used as measurement tool. Results showed a significant improvement in family members' assessment of participants' social interaction in the music therapy group relative to the control group. The staff rated participants in the music therapy group as more actively involved and cooperative in therapy than those in the control group. There was a trend suggesting that self-ratings and family ratings of mood showed greater improvement in the music group than in the control group. Results lend preliminary support to the efficacy of music therapy as a complementary therapy for social functioning and participation in rehabilitation with a trend toward improvement in mood during acute rehabilitation. In the other study Children with learning difficulties who study music are reported by Overy (2000) as showing both cognitive and emotional development, improving in skills such as co-ordination, language, concentration, attention and memory. The issue of gender differences in benefit from psychotherapy is enigmatic. Although it is generally assumed that women are more empathic, relational, and psychologically minded than men, the majority of studies have failed to confirm the assumption that females benefit more from psychotherapy than males, and that women therapists are more effective than their male counterparts. In a study, Körlin and Wrangsjö (2001) have explored gender differences in outcome of Guided Imagery and Music (GIM) therapy with a potentially gender

sensitive instrument, the Inventory of Interpersonal Problems (IIP), as well as the symptom checklist -90 (SCL-90) and Sense of coherence (SOC) scale. The findings encourage the development of a more multi-faceted perspective that gender dimension can help to improve the fit in the therapeutic relationship and improve the client's benefit of the treatment. The different results investigated by Hung (2008) about gender and emotional intelligence. The main purpose of this study was to develop the curriculum by using music to address emotional intelligent of adolescent. The results showed that the implementation of music curriculum can efficiently help the emotion wellness. The findings showed that there are some differences between male students and female students. For the female students, the entirety and every aspect of their emotional intelligence are much higher than that male student's emotional intelligence. But, in the progress, the male students are greater than the female students in emotional awareness, emotional expression, emotional usage, and the whole emotional intelligence. Music therapy concepts improve the quality of life for persons who are well and meet the needs of adolescent. Music therapy interventions can be designed to promote emotion wellness. According to the differences presented between experimental and control group in this study, dimensions of emotional intelligence can be improved in young people with paraverbal music therapy. In addition, male and female did not differ on emotional intelligence after music therapy intervention. Therefore, music therapy is an important element to improve emotional intelligence and as review shows emotional intelligence is such an important factor to success in many conditions especially for children. It is better to consider different ways of improvements of EQ in our education system and researches.

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