Abstract
This study has been conducted with the aim of examining the effectiveness of sandplay therapy in reducing symptoms of separation anxiety in children 5 to 7 years old. The present study is a quasi-experimental with the pretest-posttest control group design. Statistical population of the study included all the 5 to 7 years old children suffering from separation anxiety disorder who went to psychiatry clinics in Tehran in 2014. Sample size of the study was comprised of 30 participants who were selected through random sampling and were selectively divided into two groups (15 persons in experimental group and 15 persons in control group); but control group was waiting for treatment. Before and after 10 treatment sessions, all the participants were tested by using abnormal Child Symptom Inventory-4 (CSI-4), parent checklist. Besides, participants received psychiatrist’s diagnosis of the aforementioned disorder. The CSI-4 is a behavior rating scale whose items correspond to the symptoms of disorders defined by the Diagnostic and Statistical Manual of Mental Disorders (4th edition). The validity of this scale has been approved of by the specialists of American Psychological Association (APA). The reliability of this inventory has been 0.78 through Cronbach’s alpha. Analysis of the data obtained from administrating CSI-4 was carried out by using SPSS software in two descriptive (frequency distribution table, mean, variance and standard deviation) and inferential (covariance) sections. Results obtained from covariance analysis indicated that sandplay therapy reduces separation anxiety disorder in posttest. Therefore, the findings revealed that sandplay therapy can be effective in reducing symptoms of separation anxiety disorder.

Keywords: sandplay therapy, separation anxiety, children

Introduction
Anxiety disorders are very prevalent among children and adolescents and this disorder leads to problems in academic and social performance and family life (Warner, 2009). The anxiety disorder which mainly occurs during childhood is separation anxiety disorder. Abnormal separation anxiety occurs during preschool ages and it may last for many years. Such anxiety is seriously provoked in any situation possibly leading to separation and compels the individual to prevent situations requiring separation (Dadsetan, 2011). There has been different statistics regarding the prevalence rate of this disorder which is the most prevalent anxiety disorder among children. Darouz (2010) has reported that the prevalence rate of this disorder in children 2 to 4 years old is 17%. In 11 studies conducted by Hatton et al. (2006) on the prevalence rate of anxiety disorders among children under 12, they found that the prevalence of these disorders has been reported differently in the studies. The minimum rate has been 2.6% and the maximum rate has been 41.2%, and separation anxiety disorder has been the most prevalent anxiety disorder diagnosed in this age group. Presence of three symptoms of serious separation problems such as intense and continuous worry about being deprived and hurt, fear of separation, physical complaints, repeated nightmares, fear of school and sleep-related problems which last at least for 4 weeks is
necessary for diagnosis of this disorder (Abdkhodae and Ordobadi, 2011). Based on Lost’s (2007) report, three quarters of the children who shrink from school suffer from separation anxiety disorder, and if they do not receive timely treatment, they may suffer from secondary severe anxiety, and they may also exhibit disorders such as social phobia, fear of open spaces and panic (Lewinsohn et al., 2008). Children suffering from separation anxiety exhibit extraordinary anxiety, or even become frightened when they get separated from their parents or familiar environments or people or objects they are attached to. Such children often complain about nausea, headache, unnatural pains or fast heartbeat. In other cases, when it is time to get separated, their behavior is accompanied by symptoms of anxiety and/or panic (Liberman, 2006). Anxiety disorders during childhood are a predictor of psychiatric disorders during adolescence (Bithner et al., 2007). Thus it is important to pay attention to treatment methods, particularly in pre-school ages. Jaffe, Segal and Yeanne (2009) stated that psychotherapists use different treatments for children’s separation anxiety, some of which include cognitive behavioral therapy, family therapy, bibliotherapy and play therapy. An effective way of reducing children’s anxiety over time is play therapy (Althy, 2005). Play establishes a connection between child’s inner thoughts and the outside world, and helps the child to gain control of the foreign objects. Play allows the child to show his/her experiences, thoughts, feelings and tendencies which are threatening to him/her (Wethinton et al., 2008). Play therapy is described as a dynamic interpersonal relationship between a child and a trained therapist in the process of play therapy, which facilitates the development of a safe relationship for the child, so that the child can fully express him/herself (Landreth, 2001, cited in Ray, 2004). The child can better learn self-control skills through play therapy (Porter et al., 2007). Sandplay therapy is a kind of indirect play therapy and the therapist act as a facilitator and children can freely express their emotions and create their mental images by using sand box and miniature objects inside the sand box. For a therapist, regardless of his/her orientation, this kind of therapy is a valuable resource. It may not be surprising to say sandplay therapy has found a new position in the treatment world, especially for treatment of children (Abdollahi et al., 2010). History of sandplay goes back to Margaret Lowenfeld, pediatrician and child psychiatrist. Lowenfeld employed world technique consisted of sand box, water and miniature figures for the treatment of children. Dora Marie Kalff, student of Lowenfeld, after having found several different miniatures, wet and dry sand, delayed interpretation, etc., invented a new way of dealing with children and named her technique “sandplay” therapy, to distinguish it from Lowenfeld’s world technique (Bradway, 2006). Sandplay therapy is a technique that is a potentially valuable tool for guidance counsellors working in the context of challenging school environments. It is particularly suited to work with children and adolescents as it provides unique and developmentally appropriate opportunities for them to engage in the therapeutic process. In fact, as it is play-based and developmentally appropriate, sandplay may be a useful adjunct for the mainly cognitive and behavioural techniques most commonly used by school guidance counsellors. It provides a multiple intelligences perspective and may meet the specific needs of children with particular cognitive and socio-emotional difficulties more effectively than the traditional ‘talking’ therapies (Campbell, 2004). Carmicheal (1991) reviewed the literature concerning the role of play therapy (particularly sandplay and nondirected play therapy) in the improvement of reading. Results indicated that that the role of play therapy is to support the child, encourage the child, and build self-esteem thus creating the optimal learning environment for reading improvement. Cockle (1993) examined differences in play themes, play characteristics, object use, and narratives, elicited by the sandplay technique, with 5 coping (CG) and 5 difficulty-coping (DCG) 6–8 year olds. The CG tended to view their world as more balanced, vital, and organized, where others guide them, and they are safe. They showed resourcefulness in dealing with adversity and had hope for the future. The DCG tended to perceive their world as barren, a struggle, and consisting of threat and danger. The tended to lack resourcefulness in dealing with adversity and had a lack of hope for the future. Hunter (1996) called sanplay nonverbal thought. According to his findings, tools and emotional expressions of the children who have been emotionally hurt can be reinforced and boosted through sandplay language (cited in Zolmajd, 2002). Landreth et al. (2009) stated that play therapy has a positive impact on children’s behavior and emotions. Baggerly and Parker (2005) also stated that group play therapy affects the improvement of social skills, self-respect, self-acceptance and acceptance of others, and decrease of depression and anxiety. Bratton and Ray (2002) stated that play therapy has had positive results in self-concepts, behavioral change, social skills and anxiety. Therefore, since play for children is the same as utterance for the adults, and it is a tool for expressing emotions, establishing relationship, describing experiences, revealing wishes and self-actualization, it is preferred in the treatment of
children’s separation anxiety. As a result, in this study the effectiveness of sandplay therapy in reducing the symptoms of separation anxiety in children 5 to 7 years old is examined.

**Methodology**
The present study is a quasi-experimental with the pretest-posttest control group design. Statistical population of the study included all the 5 to 7 years old children suffering from separation anxiety disorder who went to psychiatry clinics in Tehran in 2014. Two clinics were selected out of psychiatry clinics in Tehran. Sample size of the study was comprised of 30 participants who were selected through random sampling and were selectively divided into two groups (8 boys and 7 girls in experimental group and 7 boys and 8 girls in control group). The children in experimental group were treated with sandplay therapy in 10 one-hour sessions; while control group was waiting for treatment. The criteria for selecting children included being 5 to 7 years old, suffering from separation anxiety disorder and not suffering from other psychiatric disorders. It is to be explained that in this study, in order to follow moral considerations, it was first attempted to establish an intimate friendly relationship with children by using methods such as play-doh, play with clay, play with finger paints, etc., and then they were invited for sandplay. Data collection instrument of the study has been abnormal Child Symptom Inventory-4 (CSI-4), which is the screening tool for the most common psychiatric disorders, whose items correspond to the symptoms of disorders defined by the *Diagnostic and Statistical Manual of Mental Disorders*. This directory is consisted of 21 symptoms of emotional and behavioral disorders. Its first version called SLUG checklist was designed in 1984 by Sprafkin et al. based on the classification of the third version of *Diagnostic and Statistical Manual of Mental Disorders*. This inventory is scored in two ways. 1) Screening cut-off score method and 2) symptom severity score method. In this study symptoms severity score method has been adopted. In this method, items of never, barely, sometimes and more often are respectively scored by codes 0, 1, 2, and 3. For separation anxiety, group J was used. The reliability of this inventory has been 0.784 through Cronbach’s alpha. Analysis of the data obtained from administrating CSI-4 was carried out by using SPSS software in two descriptive (frequency distribution table, mean, variance and standard deviation) and inferential (covariance) sections.

Margaret Lowenfeld’s sandplay therapy model

<table>
<thead>
<tr>
<th>Agenda of the session</th>
<th>Sessions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goals: establishing emotional and friendly relationship with the children</td>
<td>First</td>
</tr>
<tr>
<td>Goals: building trust in children</td>
<td>Second</td>
</tr>
<tr>
<td>Goals: simulating the environment of kindergarten and home and expressing interest in the environment of the kindergarten</td>
<td>Third</td>
</tr>
<tr>
<td>Goals: simulating stressful conditions for children</td>
<td>Fourth</td>
</tr>
<tr>
<td>Goals: trying to reduce children’s anxiety</td>
<td>Fifth</td>
</tr>
<tr>
<td>Goals: proposing new pedagogical strategies</td>
<td>Sixth</td>
</tr>
<tr>
<td>Goals: playing a role in reducing the children’s anxiety</td>
<td>Seventh</td>
</tr>
<tr>
<td>Goals: gradual recovery</td>
<td>Eighth</td>
</tr>
<tr>
<td>Goals: enthusiasm without anxiety</td>
<td>Ninth</td>
</tr>
<tr>
<td>Goals: disappearance of all the symptoms of children’s anxiety</td>
<td>Tenth</td>
</tr>
</tbody>
</table>

**Findings**
1. *Description of Research Variables*
Table 1. Mean and standard deviation related to separation anxiety according to the groups in pretest and posttest (n=30)

<table>
<thead>
<tr>
<th></th>
<th>Control (15)</th>
<th>Experimental (15)</th>
<th>Measurement</th>
<th>Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>2.5</td>
<td>20.53</td>
<td>1.8</td>
<td>20.27</td>
<td>Pretest</td>
</tr>
<tr>
<td>2.5</td>
<td>19.53</td>
<td>2.9</td>
<td>14.47</td>
<td>Posttest</td>
</tr>
</tbody>
</table>

Based on the above table, the mean for separation anxiety in experimental group in posttest has decreased in comparison to pretest. While, in control group, the difference between the mean for pretets and posttest is not considerable. These results are shown in the following table.

Figure 1. Column chart for groups’ separation anxiety in pretest and posttest

2. Analysis of Results
In this section, covariance analysis has been adopted in order to answer the research question: Research question: is sandplay therapy effective in reducing symptoms of children’s separation anxiety? The significance level of F-test indicated that regression slope is homogenous in groups (p=0.26, df=1.26, F=1.3).
Assumption of homogeneity of variance of the groups has been measured by Levene's test and a summary of the calculation are presented in the below table.

Table 2. A summary of Levene’s test for measuring the homogeneity of variances

<table>
<thead>
<tr>
<th>Significance level</th>
<th>Degree of freedom 2</th>
<th>Degree of freedom 1</th>
<th>F statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.08</td>
<td>28</td>
<td>1</td>
<td>3.3</td>
</tr>
</tbody>
</table>

As it is seen in the above table, the significance level of Levene's test is larger than 0.05, so the hypothesis of equal variances is accepted.
### Table 3. A summary of ANCOVA test for measuring the effectiveness of sandplay therapy in reducing children’s separation anxiety disorder

<table>
<thead>
<tr>
<th>Effect size</th>
<th>Significance level</th>
<th>F ratio</th>
<th>Mean square</th>
<th>Degree of freedom</th>
<th>Sum of squares</th>
<th>Source of changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.635</td>
<td>0.01</td>
<td>46.9</td>
<td>129.2</td>
<td>1</td>
<td>129.2</td>
<td>Covariance</td>
</tr>
<tr>
<td>0.699</td>
<td>0.01</td>
<td>62.7</td>
<td>172.7</td>
<td>1</td>
<td>172.7</td>
<td>Group</td>
</tr>
</tbody>
</table>

The above table shows that by controlling the effect of pretest, the effect of between-group factor is significant at the level of 0.01 (P=0.01, F(1.26)=62.7). In other words, the difference between the scores of posttest of groups is significant. Comparison of the scores indicates decrease of scores. Thus the null hypothesis can be rejected at the level of 0.01 and it can be concluded with 99% confidence that sandplay therapy is effective in reducing separation anxiety disorder in children 5 to 7 years old in Tehran. It is in such a way that 69.9% of the changes in children’s separation anxiety can be explained by attributing to control and experimental groups.

### Discussion and Conclusion

The aim of the present study has been to examine the effectiveness of sandplay therapy in reducing the symptoms of separation anxiety in children 5 to 7 years old. Thus this technique was implemented for this group of children. It seems that one of the appropriate techniques for counseling and solving the problems of these children is play therapy including sandplay therapy. The convincing reason why this technique is useful is that it is indirect and nonverbal which allows the child to reduce the anxiety in a safe and peaceful environment without the intervention of the therapist. In this regard, the results obtained from statistical analysis indicate that the research hypothesis (sandplay therapy is effective in reducing symptoms of separation anxiety in children 5 to 7 years old) is significant at the level of 99%. This finding suggest that sandplay therapy technique is effective in reducing symptoms of separation anxiety in children. In fact, statistical analyses indicated a significant difference between children’s separation anxiety in posttest and in pretest. Altogether, the findings of the present study are consistent with the results of other studies, including Allan and Berry’s (1987) study who examined the impact of sandplay therapy on solving children’s disorders and concluded that sandplay therapy is effective in children’s disorders by providing the safe conditions through imaginative release and development of sense of skill and control of inner impulses.

In a study, sandplay therapy was used for adolescents afflicted with traumatic brain injury. The sample size included adolescents with language, communication, psychosocial, and executive function impairments. They exhibited their social, emotional and behavioral problems through creating images inside the sand box and solved their problems with the guidance and advice of the therapist. Hence sandplay therapy provided a safe and free environment for the adolescents with traumatic brain injury to exhibit their problems and solve them (Plotts et al., 2008).

Dyke & Wiedis (2001) employed this technique for preschool-age children in order to improve their emotional problems. In this study in which children up to 8 years old participated, they found interesting results. They, as therapists, could unveil many effective and practical factors in the inner world children. Besides, they identified and treated conflicts which were the cause of children’s maladjustment in school. Sandplay therapy actually has been very effective in reducing children’s emotional problems as well as positively forming their inner world (Zolmajd, 2002).

Dermott (2004) adopted Sandplay therapy for a girl afflicted with cerebral palsy, who could only utter ‘yes’ or ‘no’ and could only use her hands. The results indicated that sandplay therapy has been useful in emotional release and boosting the understanding of the girl with cerebral palsy.

In explanation of the above findings, it is to be mentioned that children, who were present in 1-hour ten sessions, experienced how it feels not to be with their mothers and objectively experienced that absence of parents does not lead to being hurt or having problems. Besides, in sandplay therapy sessions, when children were engaged in plays in regard to children’s anxiety of separation from their parents, particularly play-doh, play with clay, play with finger paints, they exhibited their feelings at time of
separating from their mothers, and also they realized that other children’s attitudes and noticed that this fear is not only for them, but other children have similar feelings and this helped emotional release regarding the separation from parents; besides, the repeated experience of being with other children in the absence of parents greatly helped these children. Isenberg and Quisenberry (2002) said that play improves attention, planning skills, and divergent thinking. Therefore, the result of this study is a reconfirmation of the effectiveness of sandplay therapy. So it is suggested to take practical measures in all kindergartens of the country in harmony with counseling and social welfare centers in order to identify and treat children suffering from anxiety disorder, especially separation anxiety disorder. Since the study was limited to one district of Tehran, it is suggested to carry out separation anxiety screening in all kindergartens of the city for boys and girls and estimate its prevalence. Besides, application of positive results of sandplay therapy in different cases such as behavioral adjustment, social skills, emotional adjustment, and intelligence should be examined as well.

References