

Guidelines for Rehabilitation of Learning Disabilities

Maryam Zhiani¹ and Mehrnaz Ahmadi²

¹M.A. in Clinical Psychology, South Tehran Branch, Islamic Azad University, Tehran, Iran

²Assistant Professor, South Tehran Branch, Islamic Azad University, Tehran, Iran

*Corresponding author: Mehrnaz Ahmadi Assistant Professor, South Tehran Branch, Islamic Azad University, Tehran, Iran.

Email: zhianimaryam@gmail.com , M_ahmadi@azad.ac.ir

Materials and Methods Introduction

Art is a set of child-building processes involved in influencing a child's emotions, feelings, and mental states, and is a tool that helps self-expression (Ray, Schottelkorb & Tsai, 2007). Childhood plays a critical and decisive role. Childhood has been recognized by psychologists and education experts as the most prominent stage in formation of human personality. Art as a suitable therapy for children is based on the interaction between the child, others and the therapist; performing creative activities by integrating artistic, visual and auditory materials is called art therapy (Shoran & Ilise, 2003). According to the American Art Therapy Association (2014), art therapy is the treatment of mental disorders with art activities with which the child can express self and help the therapist to evaluate the child's behaviors (Levan & Levan, 2008). The goal of art therapy activities is to transform oneself and to evoke a sense of success in children through self-centered innovative tools. Art therapy is widely used to treat mental retardation, disorders, academic failure, anxiety, depression, and obsession; in 1930, it was used as a separate discipline in rehabilitation, education, and social activities. Valer (2016) mentions these people as pioneers of art therapy: Louiss (1925), Hill (1942), Pettrie (1946), Kramer (1957) and Namborg (1987). Art therapy is a technique for mental and physical health, behavior management, increased self-esteem, self-awareness and development of positive attitudes (Stivart, 2012), which reduces stress and increases interpersonal communication, and solves internal problems of students (Goldner & Scharf, 2012) and is a very simple and complete auxiliary methods to understand their problems (Tisch, 2015). In the field of developmental pathological psychology, anxiety and learning disorders are the most common reasons for students to visit psychology clinics with a prevalence of 6 to 18% (Essau & Gabbidon, 2013). Neglecting to treat anxiety and learning disorders leads to a negative effect on their social relationships. Anxiety in children manifests itself in symptoms such as fear, anxiety, and feelings of tension in the face of different situations and ranges from simple nervousness to advanced fear (Barker, 2010). Students with learning disabilities need longer time to process data. Delay in responding exposes them to problematic situations such as neglect, physical or psychological punishment. They are at greater risk of mental disorders such as anxiety, aggression, depression, vague fears, etc. (Kalldy, 2014). Anxiety and learning disabilities lead to serious damages such as dropping out of school and school phobia, academic

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failure, isolation, loneliness and disrespect in students, and if not treated, students damage themselves and others, and successive failures cause incompatibility (Schouers, 2014); this can pose a serious risk to them at school and at home. Although each stage of evolution is directly related to biological maturity and reduction of psychological and organizational problems, it is believed that biological factors may play a primary role in these problems and non-biological factors may also play an aggravating role. Since the family has a supportive role in the child's development, the family structure is one of the most important factors that affect the well-being and mental health of children. Despite good family income, parental literacy, and family history, children in single-parent families face many challenges in reaching adulthood (Glaston, 2017). Maclanahan and Sandford (2013) believe that single-parent families cannot do their activities as well as children with both parents. According to them, children who grow up in a home with one parent are in a more unfavorable and unsuitable situation than children who live with both parents; However, they did not take into account the level of literacy and awareness of parents and their race. They argue that single-parent families, in addition to low income and living in unpleasant community, spend less time listening, reading, helping their children, and education. Their care for their children's social activities outside of school is also very low (Golomborg & Roter, 2016). According to Maclanahan and Sandford (2013), single-parent students are twice as likely to drop out of high school as students living with both parents; 1.3% of all high school dropouts in the United States are due to family breakdown; about 6% of those 19% who drop out of school have a broken family (Maclanahan & Garry, 2014). According to Maclanahan and Sandford (2013) in these families, keeping the talent and motivation of their children to study lowly causes them great harm. They found that development of children in single-parent families reduces their chances of entering university by about 6%, and they are much less likely to graduate than children who grow up in two-parent families (Inthorn, 2015). Suppression and inability to express emotions endanger the child's mental health, which if left untreated, will reduce the quality of life of children in various functional and educational situations (Spence, Donovan, Mavch, Kenardy & Hearn, 2017). Therefore, any method that helps to reduce these problems is always important. In addition to family, school, and community support, other methods such as art therapy can be used to reduce these disorders, because it helps them learn, understand and interpret what they need, and provides opportunities for them to address the meanings of life (Soliva, 2009). Art is a tool that can be used to improve mental health of children express themselves by art (Dadsetan, 2019). Among activities of the child, painting is an activity that is influenced by cognitive, emotional and social development; therefore, it is used in understanding psychotherapy (Corman, 2019). Considering the wide range of art therapy such as: music therapy, poetry therapy, painting therapy, psychotherapy techniques can be combined with creative processes using art therapy to improve mental health and well-being. Although people have been using art as a way of expression, communication, and improvement for thousands of years, art therapy formally emerged in the mid-twentieth century. People suffering from mental illness have shown themselves in paintings and other works of art, and this has led them to consider using art as improvement strategy. Understanding art, its existence, and finally, origin of art from viewpoint of psychoanalysis is based on repression and sublimation. The child ignores his desires, temptations and wishes in his life, which if unmet, appear in the subconscious in two ways, either he suffers from mental illnesses or is facilitated by using defense mechanisms. Failures and repressed desires appear in the subconscious, transformed and purposefully with

manifestation of art, literature, theological, religious, philosophical beliefs and other artistic manifestations (Freud, 1920). Art is an important part of psychotherapy and is used in some therapies. The goal of art therapy is to transform identity, personality, and evoke a sense of accomplishment in children through innovative self-centered tools. Saymon (2002) believes that art therapy or art psychotherapy requires attention to psychological needs of children, such as: the need for freedom, expression and peace. Accordingly, it does not need to consider details of artistic skills and considers artistic activities and productions not because of their aesthetic approach but because of important role of psychoanalysis and psychotherapy (Heejeen, Visoon & Jeesoo, 2018). One of the most widely used methods in art therapy is drawing and painting. Painting expresses feelings and personality. In many cases, students are unable to share their problems with others; therefore, painting is one of the most effective ways to recognize their emotional and psychological characteristics in psychological activities. The goal of art therapy is to bring about positive change through engagement with the therapist and art materials, to create a meaningful art subject, and to express feelings and security that will be explored to help children with emotional, developmental, and behavioral problems (Harolod, Valler & Lask, 2016). Painting for children is not just a tool to express emotions and feelings, it is a good tool to enter their mysterious world (Shella, 2018). Drawing or making is a complex process in which students use various components of their experience to make. In this process, they give more than just engravings and statues. They reveal a part of themselves, how they think, how they feel and how they see (Heeha & Jue, 2017). Korozir, Tinkani, Eshnaider, and Dab (2015) have shown in their study that art therapy is effective in reducing anxiety. Art therapy can be effective in bringing them to awareness and building communication and motivational bridges. Children who are anxious can express themselves without revenge, they can find something valuable to express themselves (Talman & Hashmarkerz, 2017). Children, like adults, can experience anxiety crises. In fact, anxiety crisis is the fear of being abandoned and losing the love of parents. The crisis becomes apparent when the child feels some kind of deprivation. A deprivation that prevents the satisfaction that suits driving needs. Students with developmental delay can gradually and appropriately discover their complex world and help for their problem. Art, games, stories, etc. are natural tools of children with which they develop their ability. Through these creative experiences, they experiment with new ideas, express feelings, experiences, fantasies and fears. Children's art is a tool for experimenting and expressing the process of integrating reality with past experience (Furman, 2017). Drawing can be used to understand pathological conditions of patients. After years of experience working with children, Namborg (2016) found that there is a connection between children's paintings and psychotherapy, and free expression of children's art is the basis of psychotherapy treatments (HaeYen, 2018). Children's painting therapy is one of the best art therapies for their emotional, behavioral, and adaptive problems, as students spend an important part of their lives in the family and their problems are closely related to the family (Corman, 2019). Children with learning disabilities show a variety of learning and behavioral traits that may not all be seen. These traits include moderate to high IQ, difference between potential and academic achievement, perceptual and social problems, inability to develop and equip cognitive strategies for learning, metacognitive deficits, language and reading disorders, problems in mathematics, dictation and writing as common types of learning disorders (Viner, 2016). Students with learning difficulties need longer time to process data. Delay in responding exposes them to problematic situations such as neglect, and physical or psychological

punishment. They are at greater risk for mental disorders such as anxiety, aggression, and problematic situations (Kallyd, 2014). Anxiety and learning difficulties lead to serious damages in students that, if left untreated, can lead to maladaptation and harm to themselves and others. This can pose a serious risk to them at school, at home and in the community. Accordingly, the main question of the present study is whether painting therapy is effective on anxiety and learning disorders of students in single-parent families?

The main objective of this study is to determine the effectiveness of painting therapy on common childhood disorders, espe

The research method was a quasi-experimental pretest-posttest design with a control group. The statistical population consisted of male and female students with single parents in the second to fifth grades of elementary school. The samples included 30 students who were selected by convenient sampling method and matched based on gender and educational level and were assigned to two experimental and control groups. The instruments included the revised Colorado learning difficulties questionnaire (Willcutt et al., 2011), and art therapy protocol (Case, 2014), which included 12 painting and language learning sessions, which were online because of Coronavirus outbreak and closure of schools. Analysis of variance with repeated measurements showed that painting-therapy was effective on development of positive reading, social cognition, social anxiety, spatial perception, and mathematics of students in the experimental group. The results of the follow-up test after 8 weeks also confirmed the stability of positive changes.

Colorado Questionnaire

Colorado learning difficulties questionnaire (Willcutt et al., 2011) consists of 20 items, reading disorder with subscales 1, 2, 3, 4, 5, 6; social cognition with subscales 7, 8, 9, 10; social anxiety with subscales 11, 12, 13; spatial perception problem with subscales 14, 15, 16, 17; and math problem with subscales 18, 19, 20. Scoring in this test is based on a 5-point Likert scale (1: at all, 2: rarely, 3: sometimes, 4: often, 4: always). Validity of this questionnaire and its subscales were assessed by the creators of the questionnaire using internal consistency and retesting methods, which gave acceptable values (Willcutt et al., 2011).

Discriminant and Convergent Validity

In order to measure validity of the Colorado learning difficulties questionnaire by retesting, this questionnaire was administered to 20 parents with an interval of two weeks and the test-retest validity coefficient was obtained using Pearson correlation.

Validity and Reliability

Validity of the Colorado anxiety and learning difficulties questionnaire (Willcutt et al., 2011) and its subscales were assessed by creators of the Colorado questionnaire using internal consistency and retest methods and acceptable values were obtained (Willcutt et al., 2011). In order to check the validity of the Colorado learning difficulties questionnaire, internal consistency and retesting were used. Internal consistency of the questionnaire and its subscales were estimated by calculating Cronbach's alpha coefficient. Validity of the retest for the

questionnaire and each of its subscales is more than 70%, which indicates that time consistency of the Colorado questionnaire and its subscales is acceptable (Gado & Spirafkin, 2002; Khaki, 1999). The reported discriminant validity and construct validity of the questionnaire were optimal. Convergent validity of subscales of the standard Colorado learning difficulties questionnaire (Willcutt et al.) is as follows: reading 64%, social cognition 64%, social anxiety 64%, spatial perception 30% and math 44%. Hajloo and Rezai (2011) used internal consistency and retesting to evaluate validity of the Colorado learning difficulties questionnaire (Willcutt et al., 2011). Internal consistency of the questionnaire and its subscales is measured by calculating the Cronbach's alpha coefficient and the Cronbach's alpha coefficient ranges from 0-1, with a coefficient of 70% usually considered an acceptable criterion. Small values of the measurement standard error for the test and its subscales also show that standard deviation of the score distribution, the above test error, is low and indicates a high validity. The criterion for judging standard error values is measurement in relation to the number of test data and its subscales. Given that the Cronbach's alpha coefficient for learning difficulties questionnaire and its subscales is more than 70%, internal consistency of the questionnaire and its subscales is confirmed.

Results

Demographic variables included: 1) 30 students 8 to 11 years old, 2) living in district 5 of Tehran, with anxiety and learning disorders, 3) single parent. Frequency distribution and frequency percentage of grade are shown in the table below by gender and grade. According to the results, 12 male students (0.40%) were in the second grade, 2 male students (6.7%) were in the third grade, 6 boys (20.0%) and 4 girls (13.3%) were in the fourth grade and 4 boys (13.3%) and 2 girls (6.7%) were in the fifth grade.

Mean scores of anxiety (social anxiety) of students in the experimental group in post-test ($M = 5.80$, $SD = 1.65$) and follow-up ($M = 5.40$, $SD = 1.63$) decreased compared to students in the control group in post-test ($M = 7.40$, $SD = 2.79$) and follow-up ($M = 7.67$, $SD = 3.06$). Mean scores of learning difficulties of students in the experimental group in the post-test ($M = 41.20$, $SD = 5.86$) and follow-up ($M = 37.00$, $SD = 7.99$) decreased compared to students in the control group in the post-test ($M = 53.80$, $SD = 7.00$) and follow-up ($M = 55.27$, $SD = 9.93$). As distribution of variables was normal, analysis of variance with repeated measurements was used to test the hypothesis (examining the difference between scores of social anxiety and learning difficulties in control and experimental groups). Prior to this test, results of Mbox, Mauchly's sphericity, and Levin tests were reviewed to meet the assumptions. Since the Mbox test was not significant for the variables, the condition of homogeneity of variance-covariance matrices was correctly met. Insignificance of the variables in Levin test also showed that the condition of equality of between-group variances was met and variance of the dependent variable error was equal in the groups. Finally, the results of Mauchly's sphericity test showed that this test was not significant, and therefore the assumption of equality of variance within the subjects was met.

Table 1: analysis of variance with repeated measurements for comparing pretest, posttest and follow-up in learning difficulties

Variable		SS	df	MS	F	P	η^2
anxiety (social anxiety)	group	18.68	1	18.68	1.02	0.02	0.14
learning difficulties	group	2549.34	1	2549.34	14.53	0.00	0.34

Observing the differences between groups in anxiety (social anxiety) ($F = 1.02$, $df = 1$, $p = 0.02 < 0.05$, $\eta^2 = 0.14$) and learning difficulties ($F = 14.53$, $df = 1$, $p = 0.00 < 0.05$, $\eta^2 = 0.34$) shows that mean of the experimental group is lower than the control group in posttest and follow-up. These results indicate the effectiveness of painting-therapy on anxiety (social anxiety) and learning difficulties of single-parent students. Bonferroni post hoc test was used for pairwise comparisons in groups. The results showed that scores of anxiety (social anxiety) and learning difficulties decreased in post-test and follow-up compared to pre-test, which is due to effectiveness of painting-therapy on anxiety (social anxiety) and learning difficulties of students. The lack of difference between post-test and follow-up indicates the stability of changes over time.

۶ Discussion and Conclusion

The results showed that painting therapy was effective on learning difficulties of single-parent children and caused a positive change in these students. Therefore, painting therapy cause language learning and psychological sublimation and expression of unspoken inner thoughts. They were able to use the simplest possible tools beyond the pleasure they created for themselves, and with delicate coordination between the eyes and the hands, connect their inner and outer worlds and depict themselves by practical and verbal expression. Whether a code language, a cry of love or a creative stimulus, a child's painting has a unique message that, as a projection of the childish world, reveals her whole personality. Art activity is a potential state used to improve children's selective attention and can be helpful in reducing anxiety and learning difficulties (Harolod, Valler, & Lask, 2016; Hallahan & Kauffman, 2002). The results of this study are consistent with Glaston (2018), Karimaei and Ferdosipour (2019), Korozir et al. (2015), DiLeo (2014), Schouers, (2014), Gholamzadekhad., Babapou., & Sabourimoghaddam (2013). Anim (2012), Rahimian and Sadeghi (2006). With the help of an informed and experienced art therapist, the unresolved and unpleasant problems of these children can be examined and empathizing with them can help them to establish a good and healthy relationship to succeed. Children develop their potential talents by this method and away from psychological stress with their therapist and by gaining different experiences. Experimental observation of this study showed how painting therapy cause pleasant changes such as: self-regulation, increased concentration, time saving and time regulation, creativity and reduced anxiety and reduced learning-related problems of children. These children, through the relaxing experience they gained in the intervention sessions, became more aware of themselves and the issues around them. The results of this study showed that painting therapy is effective on positive transformation of anxiety and learning disorders in single-parent children. Overall, the results of this study showed that students with learning difficulties drew their emotional, unconscious, and living problems by simple artistic tools such as painting

(Case & Daly, 2014). Cas & Dalley, (1990). Students did not have words to express themselves, and painting spoke for them through codes such as the sun, tree, house, person, etc., without any conditions, and allowed them to express their painful problems (Rubin, 1998). When conflicts are strong, children draw scenes of war, animals, sharp objects, self-devaluation, breaking, etc. in their paintings. Painting therapy acts as a regulatory mechanism, enabling mysterious resolution of children's first conflicts with their parents. Painting therapy in the present study created an opportunity for students to develop maladaptive behaviors and an opportunity to re-experience conflicts and reconsider their emotions. One of the limitations of the present study is that it was performed on single-parent children, thus generalization of the results to children with both parents should be done with caution. Due to time limit of the follow-up phase, which was performed about 8 weeks after treatment, a relatively short period was considered to evaluate the effect of follow-up. Since many parents and educators are not aware of methods and styles which reduce disorders and the risks that some of these disorders can have on mental health of students, one of implications of this study is that painting therapy is seriously considered for parents and educators in long-term planning. It is recommended to conduct more research on painting therapy and its applications and use it as a non-therapeutic treatment.

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References

1. Anim, J.O., (2012) *The Role of Drawing in promoting children's communication in Early childhood Education*. Fourth Semester, 2012.
2. Case, C., & Dalley, T. (1990). *Reflections and shadows: an Exploitation of the World of the Rejected Working with Children in Art Therapy*. London, Tavistok/ Routledge.
3. Case, C. (1990). *Working With Children in Art Thearapy*. New York, United States of America: Tavistock/ Routledge.
4. Corman, L., (2019). *Le Test du dessin de famille : Dans la pratique médico-pédagogique*. 10th ed. s.l.:roshd publications.
5. Dadsetan P.(2019). *Evaluation of childs personality based on graphical tests*. 4th ed. *Publication Tehran Roshd*; PP: 178-181.
6. DiLeo, J., 2017. *Interpreting Children's drawings*. tehran: Publications of the Welfare Organization of Iran.
7. Glaston, V. G. (2018). Tranquilizing Effect of Color Reduces Aggressive Behavior and Potential Violence. *Journal of Orthomolecular Psychiatry*, 8, 218-221.
8. Hajloo, N. & Rezai, S. A., 2011. Investigating the Psychometric Properties of Colorado Learning Difficulties Test. *learning difficulties journal*, 1(1), pp. 24-43.
9. Hallahan, D. P., Kauffman, J.M., and Pullen, P.C., (2015). *Exceptional learners: an introduction to special education* (13th Ed). Published by person Education, INC.
10. Harolod, C., Valler, A. & Lask, Y. (2016). *Aggression in Painting-Painting as a Means of Release of Aggression*. *Mental Health and Society*, 2, 225-237.
11. Inthorn, S., (2015) *Parent-Child Attachment in Single Parent Families*. [Thesis for Master of Psychology]. [Leiden, Holland]: Faculty Social and Behavioral Sciences, Leiden University.
12. Persentation on the 2007 ACEL Anuual International conference and Exhibition. May, (2007). Tama, Florida.

13. Karimaei, M. & Ferdosipour, A., 2019. The effectiveness of painting-therapy on reducing the symptoms of separation anxiety disorder in preschool children. *Rooyesh-e- Ravanshenasi Journal*, 8(8), pp. 205-212.
- Rubin, J. A. (1998). *Art Therapy an Introduction*. Lillington, North Carolina, United States of America: Edwards Brothers.
14. Gholamzadekhadar., M., Babapour, J., & Sabourimoghaddam, H. (2013). *The effect of Art Therapy based on Painting Therapy in reducing symptoms of separation anxiety disorder in elementary school boys*. *Proce Soc Behavior Sci*, 84:1697-1703.
15. Korozir, J., Tinkani, L., Eshnaider, T., Dab, O. (2015). *Art, Dance, and Music Therapy*. *Physical Medicine and Rehabilitation Clinics of North America*, 15, 827-841.
16. Rubin, J. A. (1998). *Art Therapy an Introduction*. Lillington, North Carolina, United States of America: Edwards Brothers.
17. Rahimian, A. & Sadeghi, A., 2006. *Prevalence of reading disorder in primary school students*. *psychiatry and clinical psychology of iran (thought and behavior)*, 12(4), pp. 396-402.
- Schouers, S. L. (2014). *Art Therapy: An Introduction*. Hove: Psychology Press.
18. Schaverien, J. (1987). The scapegoat and The Talisman: Transference in Art Therapy. *Images of Art Therapy*. London Tavistok.
19. Schouers, S. L. (2014). *Art Therapy: An Introduction*. Hove: Psychology Press.
20. Schaverien, J. (1987). The scapegoat and The Talisman: Transference in Art Therapy. *Images of Art Therapy*. London Tavistok.
21. Spence, S. H., Donovan, C. L., March, S., Kenady, J. A., & Hearn, C. S. (2017). Generic versus disorder specific cognitive behavior therapy for social anxiety disorder in youth: A randomized controlled trial using internet delivery. *Behaviour Research and Therapy*, 90(Supplement C), 41-57.
- Paxton, J., & Shoemaker, T. (2007). Fun ways to Increase Children's Attention Span. Talman K., & Hashmarkerz, B. (2017). A Preliminary Investigation into the Influence of Therapist Experience on the Outcome of Individual Anger Interventions for People with Intellectual Disabilities. *Behavioural and Cognitive Psychotherapy*, 41, 470-478.
22. Willcutt, E. G., Boada, R., Riddle, M.W., Chhabildas, N., Defries, J. C., & Pennington, B.F., (2011), Colorado Learning Difficulties Questionnaire: *Validation of a Parent-Report Screening Measure*. *Psychological Assessment*, 3, 778-791.
23. Zade Mohamadi, A., 2005. *Music therapy in psychology, psychiatry and medicine*. tehran: danesh.