Research Paper:
Mandala Coloring as Jungian Art to Reduce Bullying and Increase Social Skills

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Background: Bullying and the lack of social skills are essential for future risk-related problems, such as delinquency and feelings of rejection in children. The present study aimed to assess the effects of coloring mandala as Jungian art to reduce bullying and increase social skills in Afghan male working children.

Methods: It was a quasi-experimental study with a pre-test, post-test and a control group design. The research population included all 10- to 12-year-old Afghan immigrant boys in Tehran City, Iran, who were studying in Parto School for Working Children, in 2019. The research sample consisted of 30 children who have obtained maximum scores on the Illinois Bully Scale (IBS) and minimum scores on the Teenage Social Skills Inventory (TSSI). The research participants were selected using a convenience sampling method. Then, they were assigned to the control and treatment groups by drawing lots. The treatment group attended ten 45-minute sessions of coloring mandalas and Jungian art. The data collection tools were the IBS: Student Version (Espelage & Holt, 2001) and the TSSI (Inderbitzen & Foster, 1992). The data were analyzed using the one-way Analysis of Covariance (ANCOVA) in SPSS.

Results: The present research results suggested that the bullying scores for the participants in the treatment group significantly decreased at the post-test, compared to the pre-test (F=24.29, P=0.001); however, their social skills scores significantly increased at the post-test, in comparison with the pre-test (F=42.41, P=0.001). However, no significant differences were found in the bullying and social skills scores of the controls between the pre-test and post-test phases.

Conclusion: Mandala coloring art was effective in reducing bullying behaviors and increasing social skills among the explored Afghan migrant working children. Therefore, this artistic method can be used as a suitable option for psychological therapies, teaching social skills, and creating participation and empathy in children in educational centers and schools for child labor.

Abstract

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Keywords: Mandala, Bullying, Social skills, Working children, Afghan, Art

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1. Introduction

The issue of migrant working children is among the current problems of host societies. The negative impact of child labor on their healthy development is a serious subject. Children should be given special attention, as they represent the main part of human resources that can attain numerous achievements in the future, through education and skills training; accordingly, if children and adolescents are being neglected when developing policies and practical solutions, human capital will be wasted (Khairi-Hassan et al., 2016). The representatives of Iran in the United Nations and the International Labor Organization have signed conventions 138, 146, and 190 to abolish child labor. They aimed to gradually increase the minimum working age to a level commensurate with the full biopsychological development of children; however, Afghan migrant working children shape more than two-thirds of the country’s children, as a vulnerable group (Khodabakhshi-Koolaee et al., 2019). Immigrant working children encounter numerous social problems due to a lack of education and nonattendance at formal education courses (Sasmal & Guillen 2015). Compared to non-immigrant families, parental violence is much more prevalent in immigrant families. This issue is due to poor economic conditions and social pressures. Forced migration, which often occurs as a result of war and destruction, is always associated with adverse psycho-social consequences. To cope with living conditions, immigrants often have no choice except to employ ineffective training and defensive strategies, like aggression (Khodabakhshi-Koolaee et al., 2012).

According to the United Nations High Commissioner for Refugees (UNHCR), by the end of 2015, the number of refugees in the world for various reasons such as attacks, war, economic problems, and unemployment reached >52 million; an increase of 1400000 individuals, compared to 2014. Besides, 51% of all these migrants and homeless individuals are children aged <18 years, two-thirds of whom are from Afghanistan, Syria, and Somalia. Iran, with 979000 Afghan and Iraqi immigrants is the fourth country worldwide in terms of hosting war migrants (Khairi-Hassan et al., 2016). Forced or non-forced migration indicates leaving a place where individuals find it difficult to survive. Such populations often find aggression as the only manner to cope with living problems (Rasekhinejad & Khodabakhshi-Koolaee 2019). In addition to the human, moral, and social consequences, working children face many psychological problems in their relations with others. Fighting over limited economic resources and family pressures force them to always fight for survival in the host country (Moradi et al., 2016; Khodabakhshi-Koolaee, Akhalaghi-Yazdi & Hojati Sayah 2019).

Bullying is behavior more frequently observed among migrant working children. Bullying is a special form of domineering behavior. These negative acts occur when there is an imbalance between the victim and the attacker. Bullying behavior can be physical (e.g. hurting, pushing, kicking) verbal (e.g. naming, angering, threatening, slandering), or involve other behav-

Highlights

● Being a refugee and forced to work as a child leads to psychosocial problems in working children.

● Informal education and art therapy reduce psychological traumas in working children.

● In this research, coloring mandala as Jungian art helped working Afghan children to corporate better with each other and experience less bullying behavior.

Plain Language Summary

Refugee children are growing around the world. War, economic problems, limited opportunities for work, and welfare are among the reasons that people leave their hometown to search for a better place to live. Mandala art was first introduced by Carl Jung, the Swiss psychiatrist to reduce psychological stress. Coloring mandala has been used for individuals with a speech problem, restricted social contact, those facing psychological trauma, such as war, sexual abuse, and accidents. It is used for children to help them create their art and experience a relaxing time. In this research, a mandala coloring was used for working Afghan boys. The results indicated that their bullying behavior declined, while their social skills increased after the training.
...that mandalas are a more appropriate method than these adolescents' concerns. Moreover, they suggested thinking than their healthy peers could help alleviate adolescents with less verbal ability and less abstract Attention-Deficit Hyperactivity Disorder (ADHD). In another study, researchers used coloring mandalas to reduce negative mood in adults. As a result, they indicated that drawing circles and coloring them helped to improve the research participants’ mood (Babouchkina & Robbins 2015).

The negative effects of bullying behaviors and the lack of social skills in migrant working children and their communication problems with the host community are of importance; thus, this study aimed at examining the effects of using coloring mandalas and Jungian art to reduce bullying and increase social skills in Afghan male working children.

2. Materials and Methods

This was a quasi-experimental study with a Pre-test-Post-test and a control group design. The research population included all 10-12 year-old Afghan immigrant boys in Tehran City, Iran, who were studying at Parto School for Working Children in the Education District 15 of Tehran Municipality, in 2019. Of the total 48 students, 30 boys who met the study inclusion criteria were selected using the convenience sampling technique. The study participants were then assigned to the control (n=15) and treatment (n=15) groups by drawing lots. The study inclusion criteria were as follows: Obtaining the maximum score on the Illinois Bully Scale (IBS) and the minimum score on the Social Skills Inventory (SSI), enrolling in Parto School for Working Children and having an age of 10-12 years. The research exclusion criteria were as follows: Simultaneous participation in other art therapy programs and absence from more than two art therapy sessions.

The instruments used to collect the data were IBS: Student Version (Espelage & Holt 2001) and SSI (In derbitzen & Foster 1992).

IBS (Student Version): This scale was developed by Espelage and Holt (2001). The scale contains two subscales; a bullying measure that assesses the extent of the student’s involvement in bullying behavior (items 1-9) and the victimization subscale that measures the extent to which students are victimized by bullying behavior (items 10-16).

The scale items are scored on a five-point Likert-type scale, ranging from one to 5. (1: Never true about you & 5: Always true about you). In this scale, those who score low on bullying will score high on pro-social behaviors and vice versa. Espelage and Holt (2001) used factor analysis and convergent and divergent validity to
examine the validity of the scale. The authors applied Cronbach’s alpha coefficient to assess the reliability of the scale and the corresponding values for the bullying and victimization subscales were measures as 0.87 and 0.79, respectively (Espelage & Holt 2001).

We translated the IBS into Persian. The Content Validity Ratio (CVR) of the scale’s translated version was 0.65 and its Content Validity Index (CVI) was >0.72. In the present study, the scale was re-validated using Cronbach’s alpha coefficient for the sample of Afghan migrant working children and the corresponding value was 0.76, reflecting the acceptable reliability of the whole scale.

Teenage Social Skills Inventory (TSSI): This inventory was developed by Inderbitzen and Foster (1992). It contains 39 five-choice items. The statements in this scale assess positive and negative behaviors. Each statement is scored using 5 options; 0: Not at all true; 1: Very little true; 2: A little true; 3: To some extent true; 4: Often true; and 5: Always true. Negative statements are scored reversely. Inderbitzen and Foster (1992) developed two subscales for measuring prosocial (20 items) and antisocial (19 items) behaviors.

A score on this inventory higher than the average score (98) indicates better social skills and a score lower than the average suggests lower social skills. The reliability of the inventory was reported by Cronbach’s alpha coefficient as equal to 0.90 (Inderbitzen & Foster 1992). The reliability of the Persian version of the inventory was assessed by Amini (1999) in Tehran among students. The corresponding values for the positive and negative statements were reported as 0.71 and 0.68, respectively (Amini 1999). In this study, the reliability of the questionnaire was recalculated using Cronbach’s alpha coefficient; the corresponding values for the positive and negative sections were 0.78 and 0.68, respectively.

This study was conducted in 2019 at Parto School after obtaining permission from the Islamic Azad University (Tehran North Branch). The Parto school is a private charity school for working children in Tehran. The parents of these children were unavailable due to various reasons, including illegal residence and deportation from Iran. Besides, some of the children were rented. Thus, the informed consent form was obtained from the school principal as the guardian of the children. The school principal also expressed his satisfaction with the possible psychological improvement effects of the intervention, i.e. a form of art therapy and does not harm children.

Additionally, to obtain the consent of the children, the purpose of the study was explained in simple words; they were informed that there is no obligation to attend classes and that attendance in classes is voluntary. In agreement with the center, the required workbooks, crayons, and other tools were obtained by the researcher and presented to them.

<table>
<thead>
<tr>
<th>Sessions</th>
<th>Objectives</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introducing the group members and making them interested in the group activities</td>
<td>Drawing circular and semicircular designs together</td>
</tr>
<tr>
<td>2</td>
<td>Reducing bullying behaviors</td>
<td>Coloring mandala designs</td>
</tr>
<tr>
<td>3</td>
<td>Reducing anger and rage</td>
<td>Coloring mandala designs with watercolor</td>
</tr>
<tr>
<td>4</td>
<td>Encouraging friendship and helping others</td>
<td>Coloring the designs in pair</td>
</tr>
<tr>
<td>5</td>
<td>Improving courage</td>
<td>Coloring the designs individually</td>
</tr>
<tr>
<td>6</td>
<td>Sharing one’s experiences with other members</td>
<td>Coloring the designs in the group</td>
</tr>
<tr>
<td>7</td>
<td>Expressing appreciation to others</td>
<td>Drawing and coloring the designs to give as gifts to each other</td>
</tr>
<tr>
<td>8</td>
<td>Taking turns in games</td>
<td>Completing a design and coloring it in turn</td>
</tr>
<tr>
<td>9</td>
<td>Respecting others</td>
<td>Drawing in a circle in the mandala style</td>
</tr>
<tr>
<td>10</td>
<td>Performing one’s responsibilities</td>
<td>Examining other members’ mandala designs and sticking them on the classroom wall</td>
</tr>
</tbody>
</table>

Table 1. The content of coloring mandala art therapy sessions
The mandala coloring sessions were held based on the content of mandala coloring practice books obtained for each research participant. The coloring program continued with a free design of circles and semicircles. Ten 45-minute weekly therapy sessions were held for two and a half months at Parto School, i.e., located in district 15 of Tehran municipality. The course instructor was an art teacher. The content of the program is presented in Table 1. Throughout the course, mandala art therapy focused on the active role of the therapist, assistant instructor, study participants, and creative discussions. The program was implemented in one group; therefore, the students could share their experiences and insights about themselves and friends, as well as trying new options. The research team prepared some educational pamphlets about physical health, personal hygiene, and nutrition for the control group. Furthermore, after the study course, 4 sessions of mandala coloring were held for the control group.

Finally, the obtained data were analyzed using Analysis of Covariance (ANCOVA) in SPSS. The flow diagram of the study process is shown in Figure 2.

3. Results

The experimental and control group subjects were matched in age, economic status, and educational level. The mean age of the subjects was 11.50 years. The normality assumption of the data was assessed using the Shapiro-Wilkes test. Moreover, after establishing the normality assumption, ANCOVA was used to analyze the collected data.

As per Tables 2 and 3, the mean Post-test scores of bullying and social behaviors of the subjects in the treatment group increased, compared to that of the controls.

As indicated by the ANCOVA results in Tables 4, the F-value for the effectiveness of group art training was statistically significant in all tests (P<0.001). Besides, the F-value (F=24.196, F=20.12, & F=19.01) suggested that the intervention was effective in bullying, aggression, and victimization, respectively. In addition, the F-value (F=42.413 & F=32.02) indicated that the intervention was effective on prosocial and antisocial behaviors, respectively; while such effect was not observed in the control group.

4. Discussion

The current research findings suggested that coloring mandala designs were effective in reducing bullying behavior and increasing the social skills of the explored Afghan migrant working children. Similarly, the effect of coloring mandala designs was examined on improving mood, state anxiety, and body mindfulness; it was found that these designs could positively motivate participants and reduce their anxiety. It was also concluded that unstructured mandala designs were more useful than structured designs for expressing emotions (Campenni & Hartman 2020).

Besides, Henderson et al. (2007) conducted an experimental study on mandala designs to reduce patients’ Post-Traumatic Stress Disorder (PTSD) symptoms. They concluded that relative to those in the control condition, individuals assigned to the experimental mandala-creation group reported greater decreases in traumatic symptoms. Such conditions included PTSD symptoms, depressive symptoms, anxiety, spiritual meaning, and the frequency of physical symptoms and illness experiences. They concluded that mandala designs may be very useful for individuals reluctant or unable to write about their experiences (Henderson et al., 2007).

Concerning the application of mandala designs and coloring them, Cook et al. recommended that mandala art therapy be used as a strategy by elementary school counselors to help students succeed in school. These designs provide an opportunity for students to work in a group to create art (Cook et al., 2016). Besides, Bi and Liu argued that drawing mandala designs is effective in reducing the social anxiety of university students and al-
Table 2. The study subjects’ pre-test, post-test scores of bullying behaviors

<table>
<thead>
<tr>
<th>Variables</th>
<th>Treatment Group</th>
<th>Control Group</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-test</td>
<td>Post-test</td>
<td>P</td>
</tr>
<tr>
<td>Bullying</td>
<td>27.46±2.996</td>
<td>21.73±3.23</td>
<td>0.001</td>
</tr>
<tr>
<td>Aggression</td>
<td>15.46±2.065</td>
<td>12.73±1.53</td>
<td>0.001</td>
</tr>
<tr>
<td>Victimization</td>
<td>13.06±1.486</td>
<td>9.60±0.828</td>
<td>0.001</td>
</tr>
</tbody>
</table>

Table 3. The study subjects’ pre-test, post-test scores of social behaviors

<table>
<thead>
<tr>
<th>Variables</th>
<th>Treatment Group</th>
<th>Control Group</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-test</td>
<td>Post-test</td>
<td>P</td>
</tr>
<tr>
<td>Prosocial behaviors</td>
<td>44.86±6.045</td>
<td>50.66±3.35</td>
<td>0.001</td>
</tr>
<tr>
<td>Antisocial behaviors</td>
<td>51.86±3.661</td>
<td>40±3.741</td>
<td>0.001</td>
</tr>
</tbody>
</table>

Table 4. The ANCOVA results concerning the subscales of bullying and social behaviors

<table>
<thead>
<tr>
<th>Variables</th>
<th>Groups</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bullying</td>
<td>Pre-test</td>
<td>380.50</td>
<td>1</td>
<td>380.50</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Group</td>
<td>136.26</td>
<td>1</td>
<td>136.26</td>
<td>24.196</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>Error</td>
<td>556.02</td>
<td>27</td>
<td>20.59</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aggression</td>
<td>Pre-test</td>
<td>492.9</td>
<td>1</td>
<td>492.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Group</td>
<td>385</td>
<td>1</td>
<td>385</td>
<td>20.12</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>Error</td>
<td>273.8</td>
<td>27</td>
<td>10.14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Victimization</td>
<td>Pre-test</td>
<td>320.4</td>
<td>1</td>
<td>320.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Group</td>
<td>143.93</td>
<td>1</td>
<td>143.93</td>
<td>19.01</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>Error</td>
<td>830.2</td>
<td>27</td>
<td>30.74</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prosocial behaviors</td>
<td>Pre-test</td>
<td>6834.6</td>
<td>1</td>
<td>6834.6</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Group</td>
<td>806.2</td>
<td>1</td>
<td>806.2</td>
<td>42.413</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>Error</td>
<td>499.4</td>
<td>27</td>
<td>18.49</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antisocial behaviors</td>
<td>Pre-test</td>
<td>1861.9</td>
<td>1</td>
<td>1861.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Group</td>
<td>904.2</td>
<td>1</td>
<td>904.2</td>
<td>32.02</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>Error</td>
<td>5546.00</td>
<td>27</td>
<td>205.4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

df: Degree of Freedom; SS: Sum of Square; MS: Mean of Square; P<0.01.
allows them to work together (Bi & Liu 2019). Gençdoğan et al. examined the effect of coloring mandala designs on reducing test anxiety in students; they found that coloring mandalas could significantly reduce the level of anxiety in them (Gençdoğan et al., 2018).

Mandala designs could assist individuals with insufficient verbal ability or language problems in the host community to communicate with others and improve their social skills. These designs and their coloring are used for most individuals with anxiety, inattention, and PTSD. Accordingly, Kim et al. employed mandala art therapy (adults’ version) to increase subjective wellbeing, resilience, and hope in patients admitted to the psychiatric ward. They concluded that these schemes help to increase hope in hospitalized mentally-ill patients (Kim et al., 2018).

Stickley et al. applied creative writing for refugees and individuals seeking asylum in the UK. They found that creative writing may be effective in enabling such populations to cope with past experiences and find ways of adjustment for the future (Stickley et al., 2019). Mandala designs that were first introduced to the world of psychology and art by Carl Jung (2017) could help to relieve stress arising from life problems and create and promote mental health.

One of the limitations of the present study was restricting the research sample to Afghan migrant working children who

Figure 2. The flow diagram of the study process

Assessed for eligibility (n=48)

Excluded (n=18)
• Not meeting the inclusion criteria

Randomized (n=30)

Allocated to the intervention group (n=15)
Received mandala sessions

Allocated to the control group (n=15)
Received routine education

Analysis

Analyzed (n=15)

were studying at Parto School in Tehran. Moreover, the necessary data were collected through self-report questionnaires.

5. Conclusion

The present study results revealed that coloring mandala designs reduced bullying behaviors and increased social skills in Afghan migrant working children. Mandala designs help to teach creativity, increase social behaviors, and reduce anxiety and aggression in children and adolescents. Facilitated by training teachers and counselors in schools and children’s centers, mandala designs can be used to reduce aggression and bullying behaviors in these children.

Ethical Considerations

Compliance with ethical guidelines

The current study was approved by the Research Ethics Committee of Islamic Azad University, Tehran North Branch (Code: 15721602972020). The parents of the working children unavailable due to various reasons, including illegal residence and deportation from Iran. Moreover, some of the children were rented; thus, informed consent was obtained from the school principal as the guardian of the children. To obtain the consent of the children, the purpose of the study was explained in simple words to them and they were informed that attendance in therapy sessions is voluntary.

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Authors’ contributions

All authors contributed in preparing this article.

Conflict of interest

The authors declared no conflicts of interest.

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