

**EVALUATION OF THE EFFECT OF AN ART ACTIVITY IN IMPROVING  
EMOTIONAL RESILIENCE OF ADOLESCENTS: MANDALA**

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**Abstract**

Art activities are the activities that enhance emotional resilience by distraction among the adolescents who experience feelings such as anxiety, stress, conflict and unworthiness and help them to experience positive feelings. The aim of this study was to evaluate the effects of drawing and painting mandala, that is an art activity method, on enhancing emotional resilience.

This analitic and interventional study was carried out with 254 students who were studying their 9, 10 and 11th years in a high school affiliated with National Directorate of Education in Zonguldak between January 1-May 31, 2017. Data of the study were collected by Student Information Form, Child and Youth Resilience Measure (CYRM-12), The Scale of Positive and Negative Experience for Adolescents (SPANE) and Children's Self-Efficacy Scale (CSES). Interventional part of the study was conducted by assigning 41 students to the study group and 41 to control group among the students who got low scores.

Based on the results of the study, it was determined that CYRM-12 scores were significantly increased after each mandala session. It was found that the scores of CSES subscales of social efficacy, emotional self-efficacy and general self-efficacy, positive experience subscale of SPANE and SPANE were increased according to CYRM-12 at the end of fourth mandala activity.

Based on these results, it has been concluded that art activity called mandala is an effective method in enhancing psychological resilience of the adolescents.

**Keywords:** Adolescence, Emotional Resilience, Mandala, Self-efficacy

**ERGENLERDE DUYGUSAL ESNEKLİĞİN ARTTIRILMASINDA  
BİR SANAT AKTİVİTESİNİN ETKİSİNİN DEĞERLENDİRİLMESİ: MANDALA**

**Özet**

Sanat aktiviteleri kaygı, stres, çatışma ve değersizlik gibi duygular yaşayan ergenin, dikkatini başka yöne çekerek duygusal esnekliğini arttıran ve olumlu duygular yaşamasına yardımcı olan faaliyetlerdir. Bu araştırmanın amacı, bir sanat aktivitesi yöntemi olan mandala çizme ve boyamanın duygusal esnekliği arttırmaya etkisinin değerlendirilmesidir.

Araştırma deneysel bir çalışma olarak 1 Ocak-31 Mayıs 2017 tarihleri arasında Zonguldak ilinde Milli Eğitim Müdürlüğü'ne bağlı bir lisenin 9., 10. ve 11. sınıflarına devam eden ve araştırmaya katılmayı kabul eden 254 öğrenci ile gerçekleştirilmiştir. Araştırmanın verileri Öğrenci Bilgi Formu, Çocuk ve Genç Psikolojik Sağlık Ölçeği (ÇGPSÖ-12), Ergenler için Olumlu ve Olumsuz Yaşantı Ölçeği (OOYÖ) ve Çocuklar için Öz yeterlik Ölçeği (ÇÖYÖ) ile toplanmıştır. Elde edilen ilk bulgular çerçevesinde düşük puan alan öğrencilerden 41 deney 41 kontrol grubu atanarak araştırmanın girişimsel kısmı gerçekleştirilmiştir.

Araştırma bulgularına göre; ÇGPSÖ-12 ölçeği puanlarının her mandala seansı sonrası anlamlı düzeyde artış gösterdiği belirlenmiştir. Dördüncü mandala uygulaması sonunda ÇGPSÖ-12'e göre ÇÖYÖ sosyal öz-yeterlik, duygusal öz-yeterlik, genel öz-yeterlik, OÖYÖ olumlu yaşantı alt boyutu ve OÖYÖ puanlarının arttığı saptanmıştır.

Bu bulgular çerçevesinde bir sanat aktivitesi olan mandala uygulamasının ergenlerin duygusal esnekliğinin (psikolojik sağlamlığının) artırılmasında etkili bir yöntem olduğu sonucuna varılmıştır.

**Anahtar Sözcükler:** Ergenlik, Duygusal Esneklik, Mandala, Öz yeterlik

## 1. INTRODUCTION

Adolescence covers the period in which cognitive, physical, emotional and social changes occur in an individual's life. These changes can lead to conflicts with their parents, difficulties in relations with their friends, an increase in their future anxiety, and difficulties in expressing their emotions. While adolescents are trying to find themselves, they, on the one hand, try to adapt to the norms of the environment. The obstacles between these two processes can cause the adolescent to have an internal conflict and decrease their emotional resilience. That the adolescent is dealing with an art activity in this period such as sports, music, painting, and theater, which relieves his intellectual being, increases his strength to cope with the stress created by the conflict (Ocakci & Ustuner Top, 2015; Yavuzer, 2015; Gander & Gandiner, 2010).

Art therapy can be defined as an expression of individual's emotions through art and realizing and changing himself. Paints take the place of words. The individual becomes aware of his emotions through clay, painting, dance, and stories. That the adolescent has a difficulty in expressing his feelings can be overcome by putting art materials into the place of words. Art therapy is used to allow the adolescent to learn about their creativity and cope with their problems (Dincer Genc & Aslan, 2019; Yavuzer, 2013; Cappacchione, 2012).

Art activities are the ones that help the development of emotional resilience by improving adolescents' sense of self-efficacy, social adaptability and psychological resilience. Emotional resilience (psychological flexibility) is the ability of the adolescent to return to his previous state of mood through experiencing changes against difficulties and using self-healing / adaptation skills without harming himself. It is stated that art activities have a positive effect on encouraging these skills (Öz & Yılmaz, 2009; Masten & Coatsworth, 1998; Earvolino-Ramirez, 2007; Basim & Cetin, 2011).

As an art activity, mandala has a philosophy that allows the negative emotions in the adolescent's mind to be replaced with positive ones. During drawing mandala, adolescent develops many skills that he is familiar with. In addition, he has the opportunity to develop new skills that improve his emotional resilience and tolerance of life (Aykaç, 2019; Coleman & Farris-Dufrene, 1996; Killick & Schaveiren, 2003).

One of the basic philosophies of child nursing is atraumatic care. When we consider the adolescent as a healthy child, it is a social atraumatic care service to ensure that the child experiences his/her adolescence with minimal trauma. Mandala, which is an art activity, can be used as a method to communicate with the adolescent in an effective way. The pediatric nurse can predict the risks that may arise by assessing the emotions which the adolescent does not express verbally at the end of the mandala drawing and painting session and take measures for these risks (Oz & Yilmaz, 2009; Teksoz & Ocakci, 2014).

Under this theoretical structure, this study was carried out to identify the factors affecting the emotional resilience of adolescents and to assess the effect of an art activity (mandala) in improving emotional resilience and psychological flexibility of adolescents.

## 2. MATERIALS AND METHODS

### 2.1. Design

This experimental study was carried out in a local high school in Kozlu, Zonguldak Province, located in the Western Black Sea region of Turkey, between 1<sup>st</sup> January and 31<sup>st</sup> May, 2017.

### 2.2. Study sample

254 out of 586 high school students, attending the 9th, 10th and 11th grades, were included in the study sample (with an unknown frequency from the universe, 5% probability and 95% confidence level). Data collection forms and scales were applied to the students included in the sample. For the scales, scores were ranked from the highest to the lowest scores according to the first assessment result. Of the 82 students who received the lowest score in the ranking and agreed to participate in the study, 41 (odd numbers) were assigned to the intervention group and 41 (even numbers) to the control group by random sampling method. The students attending the 12th grade were excluded from the study as they studied for the university entrance exam and had an intensive curriculum.

### 2.3. Data Collection

Student Information Form, Child and Youth Psychological Resilience Scale (CYPRS-12)), The Scale of Positive and Negative Experience for Adolescents (SPANE) and Self-Efficacy Scale for Children (SES) were used in this study as data collection tools.

Before the study, the researchers received a training on the stages of mandala drawing and painting from an instructor, who specialised in this field. Mandala practice sessions took place in the art room of the school at a time that would not interfere with the other class hours of the students. The duration and frequency of mandala sessions in the study were organised according to the report published by Korea Art Therapy Association in 2013. According to this report, each session should last for 20-30 minutes and be initiated with the instructions like 'Please, express your feelings with colors. Please do not chat and discuss with the other people around you.' (Kim et al., 2014). In mandala practices, the students in the experimental group were given 30 minutes and the mandala sessions were performed once a week for four weeks on the same day and hour. During the sessions, the students were made to listen Mantra music (*Seda BAĞCAN-Ra Ma Da Sa*, <https://www.youtube.com/watch?v=0-CZynUaj60>) in order to develop individual serenity and concentration. Students made their drawings and coloring by using dry crayons (Faber-Castell 12 Crayons), gel pens (Uniball Signo 8 colors), special drawing pens (Artline 0.5 mm and 0.8 mm) and A4 paper (Copier Bond Black and White). Mandala drawings of each student in the intervention group were recorded between the first and fourth sessions. In addition, data collection tools were reapplied to the students in the intervention group at the end of each mandala drawing and painting session for four weeks. During this period, no application was performed on the students in the control group. At the end of the fourth week, data collection tools were applied again to all students (intervention and control groups) included in the study.

### 2.4. Data Collection Tools

#### 2.4.1. Student Information Form

Student Information Form includes socio-demographic features of the students, their academic achievements, their facilities of sports and art, and activities they do for relaxation (doing sports, listening to music, hanging out with friends, surfing the Internet, drawing pictures, etc.).

#### 2.4.2. Child and Youth Psychological Resilience Scale (CYPRS-12)

Child and Youth Psychological Resilience Scale (CYPRS-12) was used to assess the psychological resilience level of the adolescents. The scale, original form of which was made of 28 items, was designed into a short form with 12 items with the study carried out by Liebenberg, Ungar and Le Blanc (2013). Study of adaptation was performed by Arslan (2015).

Internal consistency coefficient was found to be 0.91. Confirmatory factor analysis results showed that the scale had a high level of compliance. Internal consistency coefficient was calculated as 0.90 in this study. The high scores, obtained from the scale, showed that psychological resilience of children and adolescents was high (Arslan, 2015).

#### **2.4.3. The Scale of Positive and Negative Experience for Adolescents (SPANE)**

SPANE is a short scale developed by Diener et al. (2010) to assess positive and negative emotions and well-being of adolescents. In Turkish validity and reliability study, performed by Telef (2013), it was found that the scale was made of two factors as it was in the original scale, and positive and negative experience subscales explained 28.9% and 22.41% of the variance, respectively. Cronbach's alpha coefficient, obtained from the reliability study of scale, was calculated as 0.84 for positive experience subscale and 0.75 for negative experience subscale. Each item of the SPANE is ranked between 1 (Very Rarely or Never) and 5 (Very Often or Always). The scale is scored independently as it assesses two different emotions. The sum of positive and negative experience scores ranges between 6 and 30 (Telef, 2013).

#### **2.4.4. Self-Efficacy Scale For Children (SES)**

Self-Efficacy Scale For Children (SES) was developed by Muris (2001) to assess the social, academic and emotional self-efficacy levels of adolescents aged 12-18. The Turkish adaptation study was carried out by Telef ve Karaca (2012). When the internal consistency coefficient of Self-Efficacy Scale For Children was analyzed, it was found to be 0.86 for the scale, 0.84 for the academic self-efficacy subscale, 0.64 for the social self-efficacy subscale, 0.78 for the emotional self-efficacy subscale. Self-Efficacy Scale For Children is a 5-point Likert-type scale (1=Not good at all and 5=Very Good). Total self-efficacy sub-factor scores are calculated by adding the relevant items. The highest score to be obtained from the scale is 105, the lowest score is 21. High score obtained from the scale shows that self-efficacy level of the children is high, and low score shows that self-efficacy level of the children is low (Telef, 2012).

#### **2.5. Ethical Consideration**

In order to carry out the study, the Institution Permit from the Governorship of Kozlu District dated 11<sup>th</sup> November 2016 with the number of 20496005-605.01-E.12725751, the board of directors permission from Bülent Ecevit University (BEU) Institute of Health Sciences dated 29<sup>th</sup> July 2016 and ethics committee approval from BEU the Human Research Ethics Committee dated 29<sup>th</sup> June 2016 with the protocol number of 147 were obtained by the researchers. Financial support as a project was provided by 2016-19093093-02 BEU-Scientific Research and Projects Coordinatorship. The procedure was applied according to the principles in the Helsinki Declaration.

#### **2.6. Statistical Analysis**

In statistical analysis of the study data, descriptive statistical methods (Frequency, percentage, mean, standard deviation), Kolmogorov-Smirnov test for the investigation of the normal distribution, Student-t test and variance analysis for the relations between the scale scores in the groups according to socio-demographic variables, Pearson Chi-Square and Fisher Exact test for the comparison of categorical data were used. Cronbach's Alpha coefficient was calculated for both reliability of the scale and subscales. The statistical significance level was accepted as  $p < 0.05$  in the tests.

### **3. RESULTS**

Some of the students participating in the study are engaged in sports activities (badminton, basketball, volleyball, football, futsal, table tennis, bowls, karate, judo, field hockey, taekwondo) ( $n = 26, 31.7\%$ ). A small number of the students are engaged in art activities (literature, folklore, chorus, music, poetry) ( $n = 18, 21.6\%$ ). Nearly all of them listen to music ( $n = 68, 82.9\%$ ), some of them draw pictures ( $n = 23, 28.0\%$ ). Nearly half of them spend time with their friends ( $n = 37, 45.1\%$ ).

**Table 1. Results regarding the comparison of study and control groups based on Self-Efficacy Scale For Children before and after mandala practice\* (n=82)**

	Control Group (n=41)				Study Group (n=41)				p
	Mean	Sd	Min	Max	Mean	Sd	Min	Max	
<b>Before Mandala</b>									
<b>Emotional self-efficacy subscale</b>	20.683	5.410	8	32	15.854	4.193	7	28	0.000
<b>After Mandala*</b>									
<b>Emotional self-efficacy subscale</b>	20.805	5.767	10	34	18.463	5.697	7	32	0.068
<b>p</b>		0.893				0.011			
<b>Before Mandala</b>									
<b>General Self-efficacy</b>	68.537	10.264	48	93	57.317	8.241	38	75	0.000
<b>After Mandala*</b>									
<b>General Self-efficacy</b>	65.878	12.406	41	92	61.561	11.351	41	88	0.104
<b>p</b>		0.152				0.028			

\*Last week of practice (4th week)

After the mandala practice in the fourth week, a statistically significant rise was observed in emotional self-efficacy subscale scores ( $15.854 \pm 4.193$ ,  $18.463 \pm 5.697$ ,  $p = 0.011$ ) and general self-efficacy scores ( $57.317 \pm 8.241$ ,  $61.561 \pm 11.351$ ,  $p = 0.028$ ) of the intervention group (Table 1).

After the mandala practice in the fourth week, the rise in the CYPRS-12 scores was found to be statistically significant ( $35.927 \pm 4.221$ ,  $42.585 \pm 7.987$ ;  $p = 0.00$ ) (Table 2).

**Table 2. Results regarding the comparison of study and control groups based on Child and Youth Resilience Measure (CYRM-12) before and after mandala practice\* (N=82)**

	Control Group (n=41)				Study Group (n=41)				p
	Mean	Sd	Min	Max	Mean	Sd	Min	Max	
<b>Before Mandala</b>									
<b>CYRM-12</b>	38.854	3.698	28	43	35.927	4.221	24	43	0.001
<b>After Mandala*</b>									
<b>CYRM-12</b>	49.610	6.426	33	60	42.585	7.987	28	59	0.000
<b>p</b>		0.000				0.000			

\*Last week of mandala practice (4th week)

After the mandala practice in the fourth week, there was a significant difference in the positive and negative experience subscale scores of the intervention and control groups ( $p = 0.001$ ,  $p = 0.017$ ;  $p = 0.000$ ,  $p = 0.024$ ). There was a significant decrease in the negative experience subscale scores of the experimental group ( $19.488 \pm 3.982$ ,  $17.512 \pm 3.769$ ,  $p = 0.006$ ) (Table 3).

**Table 3. Results regarding the comparison of study and control groups based on The Scale of Positive and Negative Experience for Adolescents (SPANE) before and after mandala practice (n=82)**

	Control Group (n=41)				Study Group (n=41)				p
	Mean	Sd	Min	Max	Mean	Sd	Min	Max	
<b>Before Mandala</b>									
<b>Mean Score of Negative Experience subscale</b>	14.317	4.590	6	26	19.488	3.982	11	30	0.000
<b>After Mandala*</b>									
<b>Mean Score of Negative Experience subscale</b>	15.317	4.809	9	24	17.512	3.769	10	27	0.024
<b>p</b>		0.266				0.006			

**Table 4. Correlation analysis of the scale scores of study group after mandala practice (4th week) (n=41)**

		Before practice CYRM- 12*	After practice Academic Self- efficacy	After practice Social Self- efficacy	After practice Emotional Self- efficacy	After practice General Self- efficacy	After practice Negative Experience	After practice Positive Experience	After practice SPANE**
After practice CYRM-12*	r	1.000	0.208	0.402	0.192	0.354	-0.275	0.544	0.323
	p	0.000	0.193	0.009	0.229	0.023	0.082	0.000	0.040
After practice Academic Self- efficacy	r	0.208	1.000	0.348	0.459	0.795	-0.020	0.271	0.240
	p	0.193	0.000	0.026	0.003	0.000	0.899	0.087	0.130
After practice Social Self- efficacy	r	0.402	0.348	1.000	0.183	0.662	0.058	0.356	0.375
	p	0.009	0.026	0.000	0.252	0.000	0.717	0.022	0.016
After practice Emotional Self- efficacy	r	0.192	0.459	0.183	1.000	0.771	-0.274	0.530	0.310
	p	0.229	0.003	0.252	0.000	0.000	0.082	0.000	0.048
After practice General Self- efficacy	r	0.354	0.795	0.662	0.771	1.000	-0.121	0.530	0.415
	p	0.023	0.000	0.000	0.000	0.000	0.450	0.000	0.007
After practice Negative Experience	r	-0.275	-0.020	0.058	-0.274	-0.121	1.000	-0.275	0.428
	p	0.082	0.899	0.717	0.082	0.450	0.000	0.082	0.005
After practice Positive Experience	r	0.544	0.271	0.356	0.530	0.530	-0.275	1.000	0.752
	p	0.000	0.087	0.022	0.000	0.000	0.082	0.000	0.000
After practice SPANE**	r	0.323	0.240	0.375	0.310	0.415	0.428	0.752	1.000
	p	0.040	0.130	0.016	0.048	0.007	0.005	0.000	0.000

\*CYRM-12: Child and Youth Resilience Measure, \*\*SPANE: The Scale of Positive and Negative Experience for Adolescents

After the mandala practice in the fourth week, a significantly positive correlation was found between the scores of CYPR-12 and subscale scores of social self-efficacy ( $r = 0.402$ ,  $p = 0.009$ ), emotional self-efficacy ( $r = 0.459$ ,  $p = 0.003$ ), general self-efficacy ( $r = 0.354$ ,  $p = 0.023$ ). Besides, the positive experience subscale score ( $r = 0.544$ ,  $p = 0.000$ ) and SPANE score ( $r = 0.323$ ,  $p = 0.040$ ) were detected to increase with the CYPR-12 scores. With the rise in scores of the general self-efficacy ( $r = 0.662$ ,  $p = 0.000$ ), positive experience subscale ( $r = 0.356$ ,  $p = 0.022$ ) and the SPANE ( $r = 0.375$ ,  $p = 0.016$ ), it was also found that the scores of the social and emotional self-efficacy subscales increased in a positive correlation (Table 4).

#### 4. DISCUSSION

Adolescence is a risky period in which the child experiences a conflict between individual sense of existence and the norms of society. If the correct methods are not used to interfere with the child, he may lose his tolerance, emotional flexibility and psychological resilience. When the adolescent engages in art activities, they allow him to express the images created by his brain and to express himself correctly. These activities may also help them develop their insights and communication skills by improving their self-efficacy (Coleman & Farris-Dufrene, 1996; Killick & Schaveiren, 2003).

Emotional flexibility plays an important role in developing the tolerance of adolescent. When the level of emotional flexibility improves, the adolescent feels better in terms of social, emotional, academic and cognitive aspects, and thus, he easily adapts to the social life. Students participating in this study are interested in sports, art activities and music in order to maintain their emotional flexibility. When the literature is analyzed, Apaydinli and Senturk (2012) stated that students engaging in extracurricular musical and social activities inside and outside the school were less inclined to act against the rules (Apaydinli & Senturk 2012). Sharma and Jagdev (2014) also stated that music therapy was effective in improving self-esteem of the adolescents with academic stress (Sharma & Jagdev, 2014). Sezer (2011) reported that music, which individuals preferred listening, had a significant effect on their state of anger and psychology (Sezer, 2011). In another study, Aslan and Cansever (2012) found that adolescents who were engaged in activities such as reading, listening to music, painting, doing sports in their free time relieved stress, calmed down and relaxed (Aslan & Cansever, 2012). As the self-efficacy of adolescents engaged in art activities such as painting, music, mandalas and sports improves, their skills in problem solving and coping with the problems also improve. Since all of these improvements influence the emotional flexibility in a positive way, the results of this study are similar to those in the literature.

Mandala, an art activity, was found to improve emotional flexibility of adolescents by helping them strengthen their psychological resilience, self-efficacy and positive emotions in this study. According to Maslow's pyramid of human hierarchies, the growth of self-esteem leads to self-actualization. While art activities develop adolescents' life skills, they also improve their self-esteem and confidence (Apaydinli, 2012; Okmen et al., 2009; Yeşilyaprak, 2006). In this context, the results of the study show that as the self-efficacy and positive inner feelings of the adolescent improve, his emotional flexibility and psychological resilience improve, too.

In the study, a decrease was detected in the frequency of experiencing negative emotions such as anger, anxiety and fear in the experimental group after mandala sessions. In his study, Chau (2020) found that coloring mandala was an effective way to reduce the stress experienced by high school students (Chau, 2020). Kaitlin Lindsay (2017) concluded in the study where coloring was used as a therapy that mandala coloring reduced the stress levels of students (Kaitlin Lindsay, 2017). Demir and Yildirim (2017) found that the art therapy program, which they practised, was influential in reducing the levels of depression and anxiety of students studying for the university entrance exam (Demir & Yildirim, 2017). Ozbay and Ilhan (2013) practised a 12-session psycho-educational program, whose abbreviation was DADE, on chronically ill children to encourage them to use coping methods more and improve their quality of life. Within the scope of DADE, children were made to practise art activities such as painting, music, ceramics, drama and poetry. It was reported that the children in the intervention group started to have less problems in their social relations from the beginning of program to the end of monitoring process. Especially the children who considered being mocked by other children stated that they experienced this situation less and they were less affected afterwards (Ozbay & Ilhan, 2013). In this context, the training sessions performed in this study are thought to be a guide for adolescents to engage in art activities.

In this study, emotional and general self-efficacy of the students in the intervention group were detected to improve at the end of the four-week mandala sessions. Self-efficacy is the adolescent's belief in his ability to cope with negative emotions in life. It requires the control of emotional / cognitive / social functions of the adolescent. High self-efficacy enables the adolescent to approach hard work and activities with ease (Telef & Karaca, 2011; Diener, 2006; Pajares, 1996). Telef and Karaca (2011) reported that self-efficacy of the adolescents decreased as they grew up. When the school success of the adolescent increases, their academic, social, emotional and general self-efficacy levels also tend to increase. When their academic, social, emotional and general self-efficacy levels tend to decrease, their school success decreases, too. It was stated that their levels of depression, anxiety, negative self-perception, somatization and hostility decreased with the improved conditions (Telef & Karaca, 2011). School success is a social norm that is desired and expected by the society. In this context, the skills and competencies developed by the adolescents in coordination with school success encourage their personality. In their study, Potash, Chen and Tsang (2016) benefited from mandala as a tool for medical students to think about their emotional state and achieve psychological balance (Potash, Chen & Tsang, 2016). Mandala is also thought to have a role in improving emotional flexibility which is necessary to be accepted in the society.

It was concluded in this study that as the general and social self-efficacy improved, the emotional flexibility (psychological resilience) score increased. Noor et al. (2017) detected that coloring mandala, as a therapeutic intervention on university students, reduced anxiety (Noor et al., 2017). Duong et al. (2018) found that the mandala drawings reduced the anxiety of graduate students (Duong et al., 2018). Sandmire et al. (2016) found that there was a significant reduction in the anxiety and fear levels of university students in art activities where mandala was used. When the psychological resilience improves, the score of positive experiences increases. Emotional flexibility of the adolescent, who is away from negative emotions and whose vulnerability decreases with high self-efficacy, also improves. Mandala is an anxiety-relieving activity that progresses in a circular way from the center to the outside and somehow hypnotize the adolescent. The improvement in psychological resilience and positive experiences after the mandala session in the fourth week is thought to be evidence of this statement and it supports the literature.

At the end of the fourth week, a rise in the scores of social self-efficacy, emotional self-efficacy, general self-efficacy and positive experiences of the intervention group was detected thanks to mandala drawing and painting practices. The scores of the Child and Youth Psychological Resilience Scale used to assess the emotional flexibility and psychological resilience of the adolescent also increased. Similarly, in the study conducted by Pisarik and Larson (2013), they found that the psychological well-being of the group, who practised mandala, improved positively, and their self-control skills such as individual awareness and development improved (Pisarik & Larson, 2013). It seems that mandala has an effect on facilitating the establishment of positive emotions, thoughts and skills in mind, such as happiness, enjoying life, and coping with difficulties. In the study conducted by Karataş and Yavuz Guler (2020), they found that adolescents had a decrease in difficulty of their emotion regulation, a positive change in their happiness level and an increase in expression of their emotions at the end of the 11-session group art therapy program. According to Shiah and Hwang (2019), the Mandala Model of Self (MMS) refers to the individual's self that functions well in various cultures and leads to absolute happiness. A study conducted with adolescents showed that MMS scores encouraged extroversion. It is obvious that art activities have a systematic mechanism that facilitates the relaxation of the adolescent and strengthens their skills of coping with difficulties (Arslan & Balkis, 2016; Arslan, 2016; Akhan, 2013; Karatas & Yavuz Guler, 2020; Shiah and Hwang, 2019).

As an art activity, mandala can be considered as an effective method to improve emotional flexibility of the adolescent. The American School Counselors Association (ASCA, 2012) recognized mandala as an effective method to interact between the student and counselor (ASCA, 2012). Cook et al. (2016) concluded in their study with primary school children that mandala sessions which were practised before the lesson in the morning helped children have a more productive and calm day (Cook et al., 2016). Kostyunina and Drozdikova-Zaripova (2016) stated that mandala therapy, which they called as "Magic Power of a Circle", was an effective method to relieve school anxiety of adolescents (Kostyunina & Drozdikova-Zaripova, 2016). Sitzer and Stockwell (2015) observed significant improvement in the flexibility, social and emotional functionality of the youth after the 14-week mandala sessions they organised with the group at risk (Sitzer & Stockwell, 2015). Drake et al. (2014) stated in their study that mandala sessions could be beneficial in reducing the stress of university students and improving their negative moods (Drake et al., 2014). Mandala coloring is also practised in digital world. That the traditional mandala coloring can be practised digitally enables both physical and mental relief and relaxation (Dauden Roquet, Claudia & Sas, Corina, 2019).

When the academic stress that the adolescent experiences at school is added to the conflicts in his daily life, an adolescent whose emotional flexibility is weakened appears. In line with the literature, this study shows that mandala as an art activity is an effective method for relieving the adolescent. It is thought that the adolescent analyze the problems during the mandala drawing and painting, pass through cognitive and emotional filters and create different solution alternatives in his mind. That the power of the adolescent to overcome the problem (sense of self-efficacy) in this process relaxes him emotionally and strengthens him psychologically is another inference in this study.

## **5. CONCLUSION AND RECOMMENDATION**

In conclusion, mandala drawing and painting positively affect social, emotional and general self-efficacy of adolescents and their skills of positive perception. Mandala practices help adolescents find effective solutions and methods to cope with the problems in their mind. Thus, they can express themselves more accurately and gain acceptance by others. Mandala can be recognized as an effective method in order to improve emotional resilience and psychological flexibility through decreasing emotional vulnerability.

Based on the results of the study; it is recommended to identify the interests of each adolescent, to facilitate/support integrating art, music and/or sports activities into lifestyle and to include activities such as painting, marbling, mandala and sculpturing in the curriculum of visual arts.

## **6. LIMITATIONS**

This study had some limitations. The limitations of the study were as follows: All students included in the intervention group were not willing to draw mandalas; music which was played for relaxation was not liked by some of the students; the physical environment was not available for mandala sessions. Further studies should be conducted to assess the levels of emotional flexibility and psychological resilience by practising mandala drawing / painting sessions in groups consisting of the adolescents from different sociocultural regions.

## **7. IMPLICATIONS FOR NURSING PRACTICE**

The mission of the child nurse is to ensure the healthy growth and development of the child living in the community. Considering the problems experienced during adolescence, playing an active role in the adolescents' development of positive behavioral traits is also a part of this mission. It is important to identify the behavioral risks of the adolescent with an intuitive sense. Adolescents can be guided for experts in the solution and prevention of risky behavior.

In the process of developing intuition, the pediatric nurse may need to actively observe the adolescents and use non-verbal communication techniques. Art activities such as drawing and painting mandalas can be an effective tool for the nurse to communicate with the adolescent. She can prevent the risks that may arise by assessing many positive or negative emotions the adolescent does not express verbally at the end of the mandala drawing and painting session.

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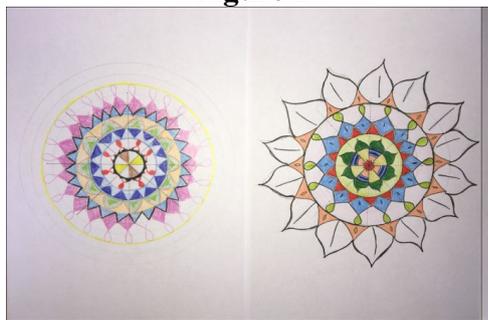
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**Figure 1**



**Figure 2**



**Figure 3**

