


**The Effects of Group Art Therapy on Reducing Psychological Stress and improving
the quality of life in Iranian Child Immigrants and Refugees**

Maryam Gerami

Concordia University, Creative Arts Therapy

Authors note:

Maryam Gerami  <https://orcid.org/0000-0002-6494-5359>

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Concordia University

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Abstract

This study examines the effects of group art therapy on reducing psychological stress and improving the quality of life in Iranian child immigrants and refugees in order to bring cost-effective and accessible solutions to vulnerable communities. A quantitative study was conducted in an Iranian school in Montreal with 10 Iranian immigrant children aged 8 to 12 with no mental health diagnosis reported. Psychological stress of participants and their quality of life were assessed by the Perceived Stress Scale (PSS), the Symptom Checklist–90–Revised questionnaires (SCL-90-R), the Revidierter Kinder Lebensqualitätsfragebogen questionnaire (KINDL- R) and measure of the cortisol level in their saliva samples, before the intervention, after 10 weeks of group art therapy, and at the four-week follow-up. The paired t-tests showed a significant difference in the scores for PSS, SCL-90-R, and KINDL-R before the beginning and after the end of 10 art therapy sessions. In addition, the pair t-tests showed that the reduction in the stress level remained statistically significant even after four weeks of finishing the art therapy intervention. Although cortisol levels did not decrease during the last session, they were significantly lower in comparison to those before the start of the intervention.

Keywords: stress, group art therapy, prevention, Iranian children, immigrants, quality of life, refugees.

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Primary prevention, which focuses on control of risk factors to reduce the occurrence of diseases (Olsen et al., 2010), has an undeniable role in health promotion (Ali & Katz, 2015). Regarding the role of stress in physical and mental diseases (Kaplan et al., 1982; Schneiderman et al., 2015; Yaribeygi et al., 2017), stress reduction could benefit the whole community especially the immigrant populations who may face migration-related stressors. Regarding the fact that immigrant populations constituted over one-fifth of Canada's total population in 2016 (Statistics Canada, 2017), it is necessary to increase accessible mental health resources for them.

Literature Review

Psychological Distress in Immigrant population

High level of pre-migration stress in Iranian immigrants and refugees, which can be influenced by experiences like political oppression, war, and sanctions from the United States of America (USA), compounded by post-migration stress factors, may make them more vulnerable to a variety of health problems (Shishehgar et al., 2015). The evidence from the Longitudinal Survey of Immigrants to Canada (LSIC) indicated the presence of emotional problems in about 29% of the newcomers (Robert & Gilkinson, 2012). In addition, 16% of new immigrants reported high levels of stress (Robert & Gilkinson, 2012). In the above-mentioned study, the following factors were associated with mental health outcomes: sex, immigration category, region of origin, income, and perceptions of the settlement process (Robert & Gilkinson, 2012). Similarly, Shishehgar et al. (2015) found that social and cultural stressors impact the Iranian immigrant population. For example, discrimination, language barriers, unfamiliarity with health care services, lack of social support, and financial issues, as well as cultural shock, can have a negative impact

on the health of newcomers. In addition to the above-mentioned stressors, political violence is another stress factor that has a profound negative psychological effect on refugees, who were forced to leave their home country (Kalmanowitz & Ho, 2016). This stressor could create a sense of vulnerability, helplessness, and insecurity (Kalmanowitz & Ho, 2016). It is important to know that newcomers' experiences cannot be interpreted as an indication of the presence of mental health problems (Hanania, 2017). However, those who suffered from trauma and loss must have access to mental health programs to explore and express their emotions (Hanania, 2017).

Cultural Humility

It is important to consider cultural humility in art therapy practice as a conceptual framework. It helps the therapist and the client to have a productive interaction without feeling alienated (Lago, 2006). Bal and Kaur (2018) define cultural humility as a process in which the self-reflective and self-critique practitioners establish a balanced communication with the patient by focusing on his needs and cultural preferences. The first step for the therapist to take is to know themselves and their biases and then give the patient the space to guide the therapeutic session based on their lived experience in their culture (Bal & Kaur, 2018).

Art Therapy and the Quality of Life

Art therapy uses self-expression through creative artmaking to increase self-awareness and foster insight, improve interpersonal skills, decrease behavioral problems, and reduce stress (Betts & Martin, 2012). Group therapy can provide additional benefits, including learning from others' experiences and comments, taking different roles, discovering and using hidden abilities, helping other individuals, as well as, reducing the intense feelings one may experience in a private session (Field & Kruger, 2008). Group art therapy enhances the protective factors to support the health

and well-being of individuals with the goal of improving the quality of life and coping abilities of people and communities' (Friedli, 2013).

In their randomized controlled study, Puig et al. (2006) found that art therapy improved the quality of life in cancer patients by decreasing negative emotions and increasing positive ones. Similarly, Samoray (2005) supports the use of art therapy on reducing stress and fatigue, increasing the speed of recovery, and sense of purpose in patients who have experienced trauma. According to Malchiodi (2012), expressive arts has the potential to enable children to be more resilient and manage stressful life conditions more effectively. Similarly, Lindsey et al. (2018) found that expressive arts and mindfulness training have a significant effect on reducing self-reported anxiety and stress levels in students in a three-week follow-up. Moreover, according to Persons (2009), creative art activities by imprisoned male youth (aged 16 to 20) resulted in stress relief and improved coping and stress management skills (Persons, 2009; Ugurlu et al., 2016). Although there is growing evidence supporting the qualitative and quantitative outcomes of art therapy in reducing stress (Stuckey & Nobel, 2010; Curtis et al., 2018; Ho et al., 2020), the majority of these studies focused on reducing the impact of a disease or a behavioral problem that has already occurred rather than as a viable solution for primary prevention, and most of these studies have been conducted within hospitals rather than in community settings (Stuckey & Nobel, 2010). However, some studies reported positive effects of artmaking in less costly community settings, such as the study of Kaimal et al. (2016) which shows a significant reduction in cortisol levels after one session of visual art making.

Art Therapy and Newcomers

As the number of the immigrant population increases, researchers try to find a solution to improve the quality of these individuals' lives. In their *Inhabited Studio* project, Kalmanowitz &

Ho (2016) demonstrated that combining art therapy and mindfulness can help newcomers feel more secure and become more resilient. Rousseau et al. (2005), in their quantitative study, found that creative workshops in the classroom can increase self-esteem and reduce some stress-related symptoms in immigrant and refugee children. Lusebrink & Hinz (2016), in their study of individuals who experienced traumatic events, indicated the effectiveness of Expressive Therapy Continuum. ETC is a theoretical and practical model in art therapy to explain the ways the clients interact with art materials. It describes four hierarchical levels of information processing and the benefits of applying each level in the treatment of the client (Hinz, 2015). These levels are categorized as kinesthetic/sensory, perceptual/affective, Cognitive/Symbolic, and Creative levels (Hinz, 2015). Lusebrink & Hinz (2016) declared that working at the Kinesthetic/Sensory level may help the clients to draw out their bodily memory and release their tension. They also believe that the correlation between the affective and perceptual components of ETC is essential in managing a trauma client since exposure to trauma causes emotional upset which should be appeased by structural perceptual work. In addition, Cognitive/Sensory work is helpful for constructing a meaningful story, cognitive restructuring, and building new coping skills in trauma clients.

Methodology

In order to address the research question: “Does group art therapy reduce psychological stress in Iranian children who are new to Canada?”, this study used a quantitative research methodology with a within-group design that includes the pre-post repeated measures (Kapitan, 2018). Following university ethics approval, announcements were sent to Iranian immigrant and refugee community centers. A recruitment poster containing the lead researcher’s email was sent out and also posted online to Iranian immigrants’ and refugees’ community centers to invite interested Iranian children and their parents to participate in the research. Potential participants

informed the researcher by phone, text, or email if they needed to get more details. In addition, the researcher spoke in Persian to interested children and their families to make sure they understood that the researcher would interview potential participants to assure eligibility criteria.

The criteria for sample selection include availability, being a newcomer (less than 5 years in Canada), willingness to participate in the program, and no known diagnosis of a psychological disorder. Participation in other psychological support programs was an exclusion criterion. A quantitative study was conducted with 10 Iranian immigrants aged 8 to 12 years old with no psychological disorder based on what they declared.

The following steps were taken:

a) The participating children and their parents were informed about the process by the researcher and both signed the consent forms;

b) Pre-testing: all selected participants were assessed by the researcher using the Perceived Stress Scale (Cohen, 1988), the Symptom Checklist-90-Revised questionnaires (Derogatis & Savitz, 1999), and the KINDL- R (quality of life assessment) (Bullinger et al., 2008) during the week before starting group art therapy. Participants also provided a small sample of saliva at the beginning of the first session, in order to measure cortisol levels which were tested at the Concordia's PERFORM Centre;

c) Selected individuals participated in ten weekly closed group art therapy sessions lasting 120 minutes, based on the Expressive Therapies Continuum (ETC) (Kagin & Lusebrink, 1978), within a familiar community setting in an after-school program;

d) Post-testing: During the week following the completion of 10 sessions, participants were evaluated by the Perceived Stress Scale, the KINDL- R, and the Symptom Checklist-90-

Revised questionnaires. Their saliva samples were collected at the beginning and the end of the last session;

e) In addition, participants were evaluated by the Perceived Stress Scale, the KINDL- R, and the Symptom Checklist–90–Revised questionnaires after four weeks after the completion of the intervention;

f) Statistical Package for Social Sciences (SPSS) software was used to measure the collecting data.

Pre- and Post-Tests

The SCL-90-R questionnaire (Derogatis & Savitz, 1999) measures the psychological distress and consists of 90 questions with high internal consistency and proved to be useful for screening purposes, evaluation of the effects of clinical interventions (Ardakani et al., 2016; Derogatis & Savitz, 1999), and to be applicable in children and adolescents (Ryttilä-Manninen, et al., 2016; Bromet et al., 2000). This questionnaire is translated into more than 20 languages and is used worldwide (Derogatis & Savitz, 1999).

KINDL-R (Bullinger et al., 2008) is a questionnaire with high reliability and validity for assessment of the health-related quality of life in children and adolescents. This questionnaire consists of 24 questions and evaluates how people perceive their physical, emotional, mental, and social health and function in different areas of their life (Bullinger et al., 2008). This questionnaire is available in multiple languages and has been used internationally. It is a short and easy to use questionnaire with three different versions which makes it suitable for use in different age groups. It can be completed by children or parents. It is available both in paper form and as a computer-assisted version and can be used for healthy and sick individuals (Ravens-Sieberer, 2018).

The Perceived Stress Scale (PSS) (Cohen, 1988) is the most popular questionnaire worldwide to assess how individuals perceive stress. The PSS informs researchers about the extent a person considers a life situation stressful (Cohen, 1988). This questionnaire assesses the mental and emotional status of the individuals within the last month (Cohen, 1988). In a study performed to evaluate the reliability and validity of the PSS, it was shown that the questionnaire was reliable and correlated well with the development of symptoms (Andreou et al., 2011; Baik et al., 2017; Reis et al., 2010).

According to Bae et al. (2019), salivary cortisol is a good biomarker of stress with high discriminatory power and a significant correlation with both subjective and autonomic stress measures like state anxiety and heart rate measures. The authors suggest using a salivary cortisol test for both research and clinical diagnosis purposes to measure the level of stress of the individuals (Bae et al., 2019). Kaimal et al. (2016) also suggest using salivary cortisol as a noninvasive biomarker to measure the stress level in individuals.

Ethical Considerations

Since the study involves human participants, the research plan was reviewed by Concordia university's institutional review board (IRB) and received Summary Protocol Form (SPF) approval. Each participant and their caregivers were informed about the researchers' background, the purpose of the study, and all the procedures as well as their right to decline to participate or to withdraw from the study at any time with no negative consequences. There were two consent forms. One for caregivers with all of the details and one for the children, which was written in a simple language that an 8-year-old child could understand. To ensure that children participants and their caregivers understood the entire process, the researcher also explained the process in Farsi to both parents and children separately.

The student art therapist-researcher was responsible for conducting the study including data gathering from participants, individual interviews, and pre- and post-tests. The art therapy student took care of participants' concerns about the procedure along the way in order to reduce the occurrence of any stress due to participation in the study. Sessions were conducted in accordance with the Canadian Art Therapy Association (CATA) ethical guidelines (Canadian Art Therapy Association, 2004). All participants and caregivers had the contact information of the student art therapist and supervisor to ask questions throughout the research process.

Regarding confidentiality and privacy, only information required to meet the scientific goals of the study were collected. All information collected during the research project remains confidential provided by law. All digital information was encrypted on a password protected computer. Numerical codes were used for participants' names and identifying information was stored separately from the coded data. The group signed a confidentiality statement included in the consent form, which outlined that information shared with peers in the group session must stay in the group session based on CATA ethical guidelines (Canadian Art Therapy Association, 2004).

Descriptions of Art Therapy Group sessions

A ten-week closed art therapy group was held with 10 participants, after drop out of two participants due to personal reasons. Sessions lasted two hours with a ritual to begin and end of the session. At the beginning of the sessions, group members were encouraged to express emotions verbally or with different arts media.

During each session, the Expressive Therapies Continuum (ETC) was used as a theoretical model (Kagin & Lusebrink, 1978). The Expressive Therapies Continuum (ETC) promotes art therapy as a therapeutic intervention that guides individuals to use art media and self-expression.

The ETC is used to describe clients' interaction with artistic or other activities to create images and develop a sequence of processed information which could range from simple sensory awareness of the materials and rhythmic movement of pounding clay to forming complex images with symbolic meaning to the individual (Hinz, 2009). The unique characteristics of ETC components provide an opportunity to strengthen healing themes and focus on group dynamics (Hinz, 2009). Each aspect of this model has a specific function in the treatment of the client. The Kinesthetic/Sensory level plays an important role in tension reduction through bodily movement in expressive artmaking and in improving awareness through touch by evoking attachment and self-regulation cohesiveness. The Perceptual/Affective process could expand the perspectives of clients and help them to see other's points of view as well as gain a new visual language. Dialogue, compromise, and problem-solving skills are helped by intervention in the Cognitive/Symbolic dimension which helps the individual to understand their hidden obstacle in the formation of symbols that emerge from spontaneous artmaking (Hinz, 2009).

Using the ETC model, we started with the Sensory/Kinesthetic level, such as making slimes and scribbling, then we proceeded to the image formation and perceptual integration, and the last step was concept formation and symbolic meaning of the created artworks. In addition to exploring the ETC, we focused on different themes such as self-acceptance, acceptance of others in the group, group cohesion, and sharing skills. At the end of each session, a ritual emerged that encouraged mutual support through sharing gratitude for themselves and other participants.

Data Analysis

Data obtained from the Perceived Stress Scale (PSS), the Symptom Checklist-90-Revised questionnaires, and the KINDL-R were categorized into three groups: before the intervention, just after finishing the tenth session, and at four weeks after the final session. The

results of the saliva tests were classified into four categories: Before and after the first session and before and after the last session of art therapy. SPSS software was used to analyze the data. In addition to a descriptive analysis, paired t-tests determined whether outcomes of the art therapy group were statistically significant. Data about the two individuals who dropped out were not included in most steps of the analysis because they did not complete the post-tests. However, their saliva tests done before and after the first session were included in the final data. One of the participants did not participate in the last session due to illness. Thus, he did not have the dataset for the saliva for the final session. However, he was able to complete the Perceived Stress Scale, the Symptom Checklist–90–Revised questionnaires, and the KINDL- R after the last art therapy session and at the four-week follow-up. Thus, we included this data in the analysis. In other words, we did not exclude any data from data analysis.

Results

PSS

The descriptive analysis of the Perceived Stress Scale before the intervention, after the intervention, and at the four-week follow-up is shown in Table 1. Before the interventions, the mean of the Perceived Stress Scale was 23.30, compared to 14.50 at the end of 10 weeks of art therapy. This shows that participants experienced a higher level of perceived stress before the group and a lower self-reported level after art therapy. Four weeks following the final session, the PSS shows that participants reported a lower range of perceived stress compared to the first self-report.

A paired t-test was conducted to compare the PSS before the art therapy sessions and after finishing 10 art therapy sessions (Table 1). There was a significant difference in the scores for the PSS before ($M=23.50$, $SD=4.27$) and after the intervention ($M=14.50$, $SD=4.93$); $t(9) =$

7.51, $p = 0.000$. In addition, a paired t-test was conducted to compare the PSS at the end of 10 weeks of art therapy ($M=14.50$, $SD=4.93$) and after four weeks following the final session ($M=14.60$, $SD=4.86$); $t(9) = -1$, $p = 0.343$. The paired t-test showed no significant difference between these scores indicating that the participants still reported a lower range of perceived stress even after four weeks following the final session.

Table 1

Descriptive Analysis of the Perceived Stress Scale and Paired T-Tests

Variable	M	S D	t (9)	P
PSS1	23.30	4.27		
PSS2	14.50	4.93		
PSS3	14.60	4.86		
Pair PSS1& PSS2	8.8	3.71	7.51	0.000
Pair PSS1& PSS2	0.10	0.32	1.00	0.343

Note. Number of participants =10; PSS1= the Perceived Stress Scale before intervention; PSS2 = the Perceived Stress Scale after intervention; PSS3 = the Perceived Stress Scale at the four-week follow-up.

KINDL- R

The descriptive analysis of the KINDL- R (quality of life assessment) before the intervention, after the intervention, and at the four-week follow-up is shown in table 2. Before the interventions, the mean of the KINDL- R was 54.87 which in comparison to 70.95 at the end of the 10 weeks of therapy shows that the quality of life of the participants increased after 10 weeks of art therapy. In addition, their quality of life remained at the higher level after four-

weeks following completion of the group art therapy intervention (Table 2). Paired-samples t-test compared the KINDL-R before the art therapy sessions and after the tenth art therapy session (Table 2). There was a significant difference in the scores for KINDL-R before (M=54.87, SD=9.50) and the KINDL-R score after the intervention (M=70.95, SD=7.96); $t(9) = -7.10$, $p = 0.000$. In addition, the KINDL-R score remained the same after four weeks of finishing the art therapy sessions (M=70.95, SD=7.96 (Table 2).

Table 2

Descriptive Analysis of the KINDL- R and Paired T-Tests

Variable	M	S D	t (9)	P
KINDL 1	54.87	9.50		
KINDL 2	70.95	7.96		
KINDL 3	70.95	7.96		
Pair KINDL1 & KINDL2	-16.08	7.16	-7.10	0.000

Note. Number of participants =10; KINDL 1= the KINDL-R before intervention; KINDL 2= the KINDL-R after intervention; KINDL 3= the KINDL-R at the four-week follow-up.

SCL-90-R

The descriptive analysis of the SCL-90-R before the intervention, after the intervention, and at the four-week follow-up is shown in Table 3. Before the interventions, the mean of the General Severity Index for SCL-90 (GSI) was 1.16. Following art therapy sessions, the mean of GSI was 0.62. The mean of the GSI was 0.61 during the four-week follow-up test. A paired-samples t-test was conducted to compare the GSI before starting art therapy sessions and after

finishing 10 sessions (Table 3). There was a significant difference in the scores for GSI before (M=1.16, SD=0.30) and GSI after the intervention (M=0.62, SD=0.38); $t(9) = -6.27$, $p = 0.000$.

In addition, there was no significant difference in the GSI scores after the tenth art therapy session (M=0.62, SD=0.38) and the GSI scores at the four-week follow-up (M=0.61, SD=0.38); $t(9) = 1$, $p = 0.343$ (table 3).

Table 3

Descriptive Analysis of the GSI and Paired T-Tests

Variable	M	S D	t (9)	P
GSI 1	1.16	0.30		
GSI 2	0.62	0.38		
GSI 3	0.61	0.38		
Pair GSI 1 & GSI 2	0.55	0.28	6.27	0.000
Pair GSI 1 & GSI 2	0.01	0.03	1.00	0.343

Note. Number of participants =10; GSI 1 = the GSI before intervention; GSI 2 = the GSI after intervention; GSI 3 = the GSI at the four-week follow-up.

Saliva Test

The descriptive analysis of the cortisol levels (saliva test) before and after the first session, and also before and after the last session of art therapy are shown in Table 4. Before the interventions, the mean cortisol level was 2.94, compared to 1.24 after the first session, and 1.85 after the tenth session. This shows that participants had lower cortisol levels after the first and last art therapy sessions compared to the levels before the intervention. A paired t-test compared the cortisol levels before and after the first art therapy sessions. There was a significant

difference in the cortisol levels before ($M=2.94$, $SD=2.06$) and after the first session ($M=1.24$, $SD=0.91$); $t(11) = 2.56$, $p = 0.01$ (table 4). Although there was no significant difference in the cortisol level before the tenth session ($M=1.79$, $SD=1.24$) and after this session ($M=1.85$, $SD=1.08$); $t(8) = -0.16$, $p = 0.43$ (table 4), the paired t-test showed a significant difference in the cortisol levels before the beginning of interventions ($M=3.031$, $SD=2.25$) and the cortisol levels after the finishing of 10 sessions of art therapy ($M=1.85$, $SD=1.08$); $t(8) = 2.52$, $p = 0.01$ (table 4).

Table 4*Descriptive Analysis of the Cortisol Level and Paired T-Tests*

Variable	M	S D	N	t	P
CLB1	2.94	2.06	12		
CLA1	1.24	0.91	12		
CLB10	1.79	1.24	9		
CLA10	1.85	1.08	9		
Pair CLB1 & CLA1	1.69	2.29	12	2.56	0.013
Pair CLB10 & CLA10	-0.06	1.17	9	-0.16	0.43
Pair CLB1 & CLA10	1.46	1.74	9	2.52	0.018

Note. CLB1= cortisol level before intervention; CLA1= cortisol level after the first session;

CLB10= cortisol level before the last session; CLA10= cortisol level after the last session.

Discussion

The effect of a 10-week closed art therapy group on psychological stresses in Iranian newcomers aged 8-12 was investigated. To assess participants' stress levels before, during and after the art therapy group, this study used three different scales (Perceived Stress Scale (Cohen, 1988), the Symptom Checklist-90-Revised questionnaires (Derogatis & Savitz, 1999), and the KINDL- R (Bullinger et al., 2008)) and the biomarker cortisol in saliva. Three separate tests were conducted to help reduce measurement bias. The results obtained from all these three assessments (SCL-90-R, KINDL-R, and PSS) showed a significant difference in participants' stress levels and quality of life, before the intervention and after 10 weeks of closed group art therapy intervention. In addition, the authors assessed participants' stress levels after four weeks of stopping the final art therapy session to confirm if stress levels still remained low. We found that lowered stress levels remained for at least one month after the end of the group. Furthermore, evaluating the participants' salivary cortisol levels showed a significant reduction after the first session. The saliva tests performed after the tenth session showed no significant reduction in cortisol levels compared to the tests performed before the beginning of this session. Since in the last session, the participants spoke about how difficult it was for them to end the therapy. Thus, the termination of the sessions may have contributed to the source of their stress. However, they showed a significant reduction in the salivary cortisol level after the tenth session compared to the tests performed before the first session which may indicate that the whole process of ten weeks of art therapy was sustaining and effective in their overall stress reduction.

Limitations and Recommendations

The primary limitation of this study was the absence of a control group. Since participation in other psychological support programs was an exclusion criterion and the

participants of this study showed a high level of stress in the initial assessment, having individuals with high levels of stress on a waiting list without using any other supportive intervention could be a potential risk for their psychological health. Thus, the researchers decided not to have a group control to protect the welfare of participants based on the *Tri-Council Policy Statement in research ethics* (Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council of Canada, & Social Sciences and Humanities Research Council of Canada, 2018). The second limitation was the dual role of the student art therapist-researcher that could create a bias for the results of the questionnaires. To reduce this bias, the participant's cortisol level was measured by other professionals at Concordia University's PERFORM Centre. Finally, the small sample size was another limitation of this study. Due to the limitations described above, the author recommends extending this pilot study to research with larger sample size and with a wider range age groups to assess the effect of art therapy on psychological stress on a larger scale.

Conclusion

As the number of newcomers to Canada increases, it is important to provide accessible and effective resources to improve their quality of life. According to Steiner (2018), in order to have a sustainable improvement in the quality of life, it is crucial to provide accessible resources in different levels of non-medical support for patients (Steiner, 2018). The present study supports the results of other studies (Curtis et al., 2018; Ho et al., 2018; Kaimal et al., 2016) which emphasize the role of art therapy as an effective intervention to reduce the psychological stress of individuals and improve their quality of life. This study showed a significant difference in the scores of PSS, SCL-90-R, KINDL-R, and the level of cortisol in participants' saliva after the art therapy intervention. In addition, the results remained statistically significant after four weeks of finishing

the art therapy intervention. Accordingly, the author recommends the inclusion of art therapy interventions in primary services provided for the newcomers in order to provide cost-effective and accessible solutions for improving their quality of life and reducing the psychological stress in these individuals.

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