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The Effect of Art Therapy and Mindfulness Based Cognitive Therapy Program on the Levels of Alexithymia of Individuals*

Sanat Terapisi ve Bilinçli Farkındalık Temelli Bilişsel Terapi Programının Bireylerin Aleksitimi Düzeylerine Etkisi

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Asst. Prof. Dr. Volkan Demir
Istanbul Gelisim University
Faculty of Economics, Administrative and Social SciencesDepartment of Psychology
demir.volkan@outlook.com

ORCID ID
https://orcid.org/0000-0002-8148-8647

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Abstract

Study was prepared to determine the effect of group practices on the alexithymia symptoms of individuals using Mindfulness-Based Cognitive Therapy (MBCT) and Art Therapy (AT) techniques. Experimental design with pretest and posttest control groups was used in the study. Individuals who received high scores on the Toronto Alexithymia Scale and volunteered were assigned to the first experiment (14), the second experiment (14) and the control group (14) objectively. The study group of the research consists of second and third year students studying at the psychology department of Istanbul Gelisim University. Participation in the research is on a voluntary basis. The measurement tools were applied as a pretest before the application and as a posttest at the end of the application. In the study, MBCT Program was applied to the first experimental group and AT program was applied to the second experimental group. Not any procedure was applied to the control group. The experimental process was applied to both experimental groups once a week, 90 minutes to the MBCT Group, and 120 minutes to the AT group as 8 sessions. Wilcoxon Signed Ranks Test was used to compare the groups among themselves. The group from which the difference originated was analyzed by the Mann Whitney U Test. As a result, MBCT Program and AT program were found to be effective in reducing the levels of alexithymia. There was no remarkable change in the measurements of the individuals in the control group. When the studies on alexithymia in our country are examined, besides the research of this concept, the lack of practical studies on this concept draws attention. The idea that group work with art therapy and mindfulness-based cognitive therapy programs designed to reduce alexithymia in the normal population will make a significant contribution to the field theoretically, practically and experimentally. It was observed that there wasn't any significant difference in alexithymia levels between the two therapy programs. The results, limitations and strengths of the study were discussed under the leadership of the literature.

Keywords: Art Therapy, Mindfulness, Cognitive Therapy, Alexithymia

Öz

Bu araştırmanın amacı, Sanat Terapisi ve Bilinçli Farkındalık Temelli Bilişsel Terapi yöntemleri uygulanarak gerçekleştirilen grup terapisi programlarının bireylerin aleksitimi düzeyleri üzerindeki etkililiğini incelemektir. Çalışmada ön test-son test düzeninde deneysel deseni kontrol grubu ile kullanılmıştır. Araştırmada yer alan örneklem grubu, İstanbul Gelişim Üniversitesi psikoloji bölümünde, 2 ve 3. sınıf düzeyinde 42 öğrenciden oluşmaktadır. Birinci deney grubu 14 kişiden oluşmakta olup Toronto Aleksitimi Ölçeği'nde yüksek skor almış bireyleri, ikinci grup ise yine 14 kişiden oluşmakta olup tarafsız atanmış bireyleri içermektedir. Toronto Aleksitimi Ölçeği terapi uygulamaları başlamadan önce ön test, uygulamalar tamamladığında ise son test olarak uygulanmıştır. Çalışmada 1. deney grubuna Bilinçli Farkındalık Temelli Bilişsel Terapi Programı, 2. Deney grubuna Sanat Terapisi program uygulanmıştır. Bahsedilen kontrol grubu aktif bir uygulamaya katılmamıştır. Deney grupları ise Sanat Terapisi grubu için 120, Bilinçli Farkındalık Temelli Bilişsel Terapi grubu için ise 90 dakika olmak üzere sekizer oturuma dâhil edilmiştir. Gruplar arası karşılaştırma yapabilmek için Wilcoxon Signed Rank Testi tercih edilmiştir. Gözlemlenen farkın kaynağı olan grubun tespiti için ise Mann Whitney U Testi uygulanmıştır. Analizlerin sonucunda hem Sanat Terapi programı hem Bilinçli Farkındalık Temelli Bilişsel Terapi programının bireylerin aleksitimi düzeylerinin azalmasında etkili olduğu gözlenmiştir. Gruplar arası karşılaştırma yapılabilmesi için Wilcoxon Signed Rank Testi kullanılmış olup farka sebep olan grubun tespiti için ise Mann Whitney U Testi kullanılmıştır. Sonuç olarak Bilinçli Farkındalık Temelli Bilişsel Terapi Programı ve Sanatla Terapi programının aleksitimi düzeylerini azaltmada etkili olduğu görülmüştür. Kontrol grubundaki bireylerin, ölçümlerinde ise anlamlı bir değişme bulunamamıştır. İki terapi programı arasında aleksitimi düzeyleri arasında anlamlı bir fark olmadığı gözlemlenmiştir. Aleksitimi ile ilgili ülkemizde yapılan araştırmalar incelendiğinde, bu kavramın araştırılmasının yanı sıra bu kavramın alana yönelik eylemsel ve pratik çalışmaların azlığı dikkat çekmektedir. Normal popülasyonda aleksitiminin azaltılmasına yönelik olarak hazırlanmış sanat terapisi ve bilinçli farkındalık temelli bilişsel terapi programlarıyla yapılacak grup çalışmasının alana ilişkin kuramsal, uygulama ve deneysel olarak önemli katkı sağlayacağı düşüncesi bu araştırmanın önemli gerekçesini oluşturmaktadır. Araştırmanın sonuçları, sınırlılıkları ve güçlü yanları alanyazın ışığında tartışılmıştır.

Anahtar Kelimeler: *Sanat Terapisi, Bilinçli Farkındalık, Bilişsel Terapi, Aleksitimi*

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INTRODUCTION

Identifying and expressing emotions, which have an important function in the everyday routine of individuals', always been an important problem throughout human history. The concept of alexithymia was used for a specific problem about distinguishing emotions. Kocak (2002) states that, alexithymia is defined in it's simplest form as the difficulty of identifying, distinguishing and expressing emotions. Alexithymia, a word of Greek origin, is a concept formed from the composition of words a: no, lexis: word, thymos: emotion. Dereboy (1990), translated the concept of alexithymia into Turkish as "absence of words for emotions". Sahin (1991) defined this concept as "emotional numbness". Dokmen (2000) named the concept of alexithymia as "slavery of thought". The concept of alexithymia was used for the first time as a term specific to psychosomatic disorders. Freedman & Sweet (1954) defined psychosomatic patients who were incapable to explain their emotions verbally as "emotion ignoramuses." These individuals are not aware of their emotional experiences because they have embodied their anxiety. For instance Holmes et. al (2022), studied a systematic review of Alexithymia and Cutaneous Disease Morbidity. They found a markedly greater prevalence of alexithymia in dermatology patients and reported that noticing alexithymia in various different cases in the field of dermatology is needed.

Parker, Bagby & Taylor (1991) stated that alexithymia not only can be seen in psychosomatic disorders, but also can be seen in mental disorders such as depression too. The relationship of depression and alexithymia disorder has been demonstrated in many studies (Tang et al., 2022; Hemming et al., 2019; Foran and O'leary, 2013).

Honkalampi, Hintikka, Laukkanen & Viinamäki (2001) suggested in their study with the Toronto Alexithymia Scale and the Hamilton Depression Scale that alexithymia is completely different from depression but these are closely related structures. In a study conducted by Fukunishi, Kikuchi, Wogan & Takubo (1997), the frequency of alexithymia was reported as 54% for panic disorder and 58% for social phobia. Rybakowski & Ziolkowski (1991) identified alexithymic personality traits in 79 out of 100 alcohol-addicted male patients. Taylor & Bagby (2004) stated that the frequency of alexithymia in eating disorders was 39.6%.

In recent years, studies have shown that alexithymia is not only seen in psychosomatic diseases or in clinical samples, but also can be seen in healthy individuals too (Selinheimo et al., 2022). There are certain amount of studies in the literature on this subject. Loas, Fremaux, Otmani & Verrier (1995) studied with a total of 446 individuals, 183 of whom were non-student and 263 of whom were university students. As a result of this study, the frequency of alexithymia was noticed as 23% in the non-student group and 7% in the student group. Kokkonen et al. (2001), in their study in which they investigated the frequency of alexithymia on 5993 individuals; they concluded that 9.4% of men and 5.2% of women were alexithymic. In studies conducted in Turkiye, Candansayar (1993) conducted a study in which he examined the frequency of alexithymia on 460 students between the ages of 18-25. As a consequence of this study, it was determined that 16.7% of the students were alexithymic. Akoglu (2021), observed that the total scores of elementary school graduates in Toronto Alexithymia Scale are higher than those of high school, undergraduate and above graduates**.** Gurkan (1996), found the frequency of alexithymia in the normal population to be 35.5% in his study.

Lesser (1985) states that, because of the difficulties experienced by alexithymic individuals in identifying and explaining their emotions, it is hard to treat alexithymic individuals with traditional approaches. According to him, one of the most appropriate approaches is the "here and now" technique used in cognitive-centered approaches. Therefore, the expression of emotions in the moment of experience should be given importance during the treatment process. Swiller (1988) suggests that, individual and group therapy should be carried out together in alexithymic individuals. According to him, individual therapy provides intellectual learning and also gives insight. In group therapy, alexithymic individuals gain insight into why their social relationships have not improved and about the emotional problems they have experienced with the feedback they received from other members.

Mindfulness, an ancient Buddhist practice, is a mind and body practice. In this practice, defined as mindfulness meditation, inner experiences are accepted without judgment. The process of awareness is the deliberate redirection of attention to the flow of thoughts, feelings and experiences which are experienced at that moment. (Kabat-Zinn, 2003). Bishop et al. (2004), defined mindfulness as accepting and approving the moment without being influenced by possible experiences and emotions experienced in the past or planned for the future. There are some studies that reveal the link between mindfulness and alexithymia and the effect of mindfulness-based intervention programs on alexithymia. In studies, high alexithymia level has been associated with low mindfulness level (Baer, 2006; Teixeira & Pereira, 2015). Norman, Marzano, Coulson & Oskis (2019) stated that, mindfulness-based intervention programs were found to be effective on alexithymia levels.

In addition to mindfulness-based interventions, which are the "third wave" of the cognitive and behavioral approach, in the treatment of alexithymia, expressive approaches such as psychodrama (Wolf, 1977), Art Therapy (Gunay, 2017; Heiman, Strnad, Weiland, & Wise, 1994) have been suggested. AT

described as the use of several art materials to ensure diagnosis and treatment to cause a positive improvement in individuals, resolve conflicts, reduce physical and mental problems, solve problems, and help struggle with stress (Case & Dalley, 2014; Geue et al., 2010; Malchiodi, 2005). For individuals who are unable to express themselves verbally, AT is particularly effective. Autism, mental decline, patients with dementia, depression, addiction issues, or children who have chronic diseases can be given as examples of these groups (Demir, 2022). Studies emphasize the talent of art to reach the body, mind and spirit at the same time (Siegel, 1990) and it would seem that artistic activities strengthen the participation of individuals in the therapeutic process by making surroundings that will make them feel safe and comfortable (Graham, 1994; Linesch,1998; Mercedes Ballbe, 1997; Reynolds, 1990; Riley, 1999).

In the literature review, it has been determined that there are limited number of experimental studies handled to reduce alexithymia levels both in Turkey and abroad. For this reason, in this study, the impacts of group practices using AT and MBCT techniques on individuals' alexithymia levels were questioned. For this purpose, the following hypotheses were tested.

1. Individuals in the 1st experimental group participating in the MBCT Program will have a significant decrease in alexithymia levels compared to the individuals in the control group.
2. Individuals in the 2nd experimental group participating in the AT program will have a significant reduction in their alexithymia levels compared to individuals in the control group.
3. A therapy program using AT techniques will be more effective in reducing alexithymia levels compared to MBCT Therapy program.

METHOD

Research Pattern

Experimental design with control group and pretest - posttest applications were used in this study. The control group, pretest, posttest pattern is a commonly used mixed pattern. Participants are evaluated about the dependent variable before and after the empirical process (Buyukozturk, 2003). In line with this pattern, a total of three groups, two experimental and one control, were formed. In the study, the students in the 1st experiment, 2nd experiment and control groups were given the Toronto Alexithymia Scale as a pretest before the applications and as a posttest at the end of the applications. MBCT program was applied to the subjects in the 1st experimental group and AT program was applied to subjects in the 2nd experimental group. No procedure was performed on the control group.

Participants

The research was conducted at the Association of Clinical and Forensic Psychology. The group members involved in the study were selected according to the scores obtained from the scale used and on a voluntary basis from among the second and third year students studying at the psychology department of Istanbul Gelisim University. Participants are between the ages 19-21. Attention was paid to the fact that individuals who have a chronic physical illness, psychiatric treatment process (medicine and/or therapy), substance abuse, suicide attempts were not included in the study.

The Toronto Alexithymia Scale improved by Bagby, Parker & Taylor (1994) and transcribed into Turkish by Gulec et al. (2009) was used for creating the sample of this study. The scale was applied by the researcher to a total of 93 students, 67 female and 26 male, studying at the Psychology Departmeof Istanbul Gelisim University. A total of 42 students; 31 female and 11 male, volunteered to participate in the studies, out of 51 students who scored high on the Toronto Alexithymia Scale. Both control and experimental groups consist of 14 students. Participants were assigned to two experimental and one control groups by random sampling method.

The arithmetic mean and standard deviations of the Toronto Alexithymia Scale premeasurement scores of the experimental and control groups are given in Table 1.

Table 1: The Arithmetic Mean and Standard Deviation Values of the Alexithymia Premeasurement Scores of the Experimental and Control Groups.

	1. Experimental Group			**2. Experimental Group**			**Control Group**		
	n	$\overline{X}$	Ss	n	$\overline{X}$	Ss	n	$\overline{X}$	Ss
Alexithymia	14	53,57	9,740	14	57,00	9,190	14	53,50	9,944

As Table 1, the arithmetic mean scores of the experimental and control groups' premeasurement scores are quite close to each other. The Kruskal Wallis H Test results regarding the alexithymia premeasurement scores of the individuals are given in Table 2.

Table 2: Kruskal Wallis H Test Results For Alexithymia Premeasurement Scores.

	Group	N	Av.rank	Sd	P
Alexithymia Pretest	Exper. 1	14	20,32	2	,494
	Exper. 2	14	24,64		
	Control	14	19,54		

As in Table 2, the major level of the p value is higher than .05, indicating that there is no significant difference among the groups. Accordingly, it can be said that the groups were equivalent to each other before starting the experimental application in terms of the dependent variable.

Data Collection Tools

Sociodemographic Information Form

This form was used by the researcher to question the sociodemographic characteristics. Form includes age, education level, gender, occupation, marital status, drug treatments used, alcohol-substance use and other physical diseases were questioned.

Toronto Alexithymia Scale

Improved by Bagby et al. (1994), a scale consists of 20 questions scored 1 to 5 by self assesment, evaluates alexithymia, which is defined as the individual's not recognizing his own emotions and excitements. Items 4, 5, 10, 18 and 19 are reverse scored accordingly. It has subscales of adversity in recognizing emotions (TAS-A), adversity in verbalizing emotions (TAS-B), and extraverted thinking (TAS-C). The individual is asked to mark the most suitable option for each item from "Rarely", "Never", "Often", "Sometimes" and "Always". High scores obtained from the scale indicate an increase in alexithymic tendency. The scale, adapted to Turkish by Gulec et al. (2009), consists of 3 factors. It has subscales of adversity in identifying emotions, adversity in putting emotions into words, and extraverted thinking. The total Cronbach's alpha value was 0.78, and the subscales were between 0.57 and 0.80.

Analysis of Data

In the analysis of the data gathered with measurement tools; The data gathered for the sub-objectives whose answers were sought within the framework of the general aim of the research were entered into the SPSS program and the SPSS 16.0 package program was used for the necessary statistical analyzes on the data. In the study, firstly, it was examined whether the data met the basic assumptions of the parametric tests. For this purpose, it was checked whether the data showed a normal distribution in each group, and the results of the normality test (Shapiro-Wilk) of the alexithymia premeasurement scores of the students in the experimental and control groups were significant. ($p<.05$). Nonparametric tests were used to analyze the data obtained because the variances of the groups were not equal and the data did not show normal distribution. Data is analyzed with the Kruskal Wallis H test and Mann Whitney U test for unrelated measures, and the Wilcoxon Signed Ranks test for correlated measures.

Sessions

Preparation and Implementation of the MBCT Program

The first program prepared within the extent of the research is the MBCT program. It consists of eight sessions, each of which is 90 minutes. The program was improved by the researcher using varied sources (Demir, 2014; Demir, 2015; Özyeşil & Ögel, 2013). Program was designed to help participants gain awareness of emotions, thoughts and physiological changes, the significance of being here and now, living in the moment, developing alternatives to negative automatic thoughts that cause negative emotions.

Breathing exercises to cope with feelings and thoughts, mindfulness exercises and also exercises to combine body awareness and breath awareness, to help them relax and learn to control their body by expressing their emotions has been prepared. The information is given in every session, the exercises to be done and the assignment to be given at the end of the session were determined in the first place. The purpose of each session was prepared by determining the target thoughts, feelings and behaviors that the participants were expected to gain.

Table 3: Mindfulness Based Cognitive Therapy Content of the Program

1st session	Determining the expectations of the participants from the program including mindfulness practices and the skills they want to acquire in this process.
2nd session	Ensuring that the participants put aside their worries about the future and judgements about themselves as well as focusing here and now.
3rd session	Gaining the participants to be aware of the negative thoughts leading to negative emotions.
4th session	Enabling the participants to connect with their bodies; ensuring them to be aware of their emotions and physical sensations and also to develope various strategies to more effectively cope with the thoughts cauisng stress
5th session	Making them feel conscious awareness of emotions and desires
6th session	Ensuring the participants to stay away from the thoughts distracting their minds and causing negative emotions.
7th session	Ensuring that putting distance to negative thoughts causing negative emotions and letting them flow away
8th session	Enabling the participants to integrate with their feelings including judgements on their own characteristics and those hard to accept

Preparation and Implementation of the at Program

The second program is the AT program. The program consists of eight sessions of 120 minutes each. The program was improved by the researcher using many sources. (Capacchione, 2012; Malchiodi, 2011; Liebmann, 2004).

The program consists of three stages: 1) the group creating art acts, 2) working for individual awareness with appropriate art elements and appropriate techniques, 3) producing and watching together with the group members, current or future study of reminiscences of previous associations, especially artistic stimulations and associations prominent in memories.

Table 4: Content of Art Therapy Program

1st session	Developed self-awareness, assignment of new perspective and goal to personal experience
2nd session	Ensuring that the participants are aware of emotions those feels by the participants and improvement of their expression talents by means of verbal and without verbal
3rd session	Enabling the participants to concentrate on staying in the moment and to focus on their feelings in the here and now.
4th session	Ensuring the participants to be aware of their feelings right here and now and to improve the expression talents regarding these feelings
5th session	Enabling that the participants can connect with their bodies.
6th session	Ensuring that the participants may be aware of their thoughts, feelings and physical senses and enabling them to develop strategies to cope with their negative feelings and thoughts more effectively.
7th session	Developing awareness of what compelling feelings and thoughts are and ensuring the participants to change the way of relationship regarding their compelling feelings, thoughts and experiences.
8th session	Helping the participants to accept themselves with their positive and negative characteristics, and to develope the feelings like personal worthiness and self-understanding.

Implementation of the Program

Group sessions were conducted using MBCT methods with one of the experimental groups, and using AT methods with the other group. No studies were conducted with the control group. The studies were applied once a week between March 2016 and May 2016, with each session 90 minutes for the group in which MBCT Therapy methods were applied, and 120 minutes for the group where AT methods were applied. The reason for longer duration in the AT group is that the group proceeds spontaneously and is not completely structured as the mindfulness-based cognitive approach. Both groups started with 14 participants and there was no loss of participants in either group until the end of the study.

At the end of the sessions, the common point of each group session and the group members' impressions of that day's session were taken and trying to discuss how the gainings of sessions could be

adapted to daily life. The applications were started by the researcher on the same date and finished at the same time each week. The studies were carried out with the 1st experimental group between 16.00-17.30 on the same day outside of school hours, and with the 2nd experimental group between 18.30-20.30.

Ethics Committee Certificate

Ethics committee comfirmation was not acquired because the data for this study were collected before 2020. In line with the Declaration of Helsinki, the individuals participating in the research were noticed about the aim of the research, how the data collection process would be carried out and how long it would take. Informed consent was given.

RESULTS

Hypothesis 1

Individuals in the 1st experimental group participating in the MBCT Program will have a remarkable decrease in alexithymia levels compared to the individuals in the control group. The Wilcoxon Signed Ranks test results regarding whether the alexithymia levels of the individuals in the 1st experimental group show a significant difference before and after the experiment are given in Table 5.

Table 5: Wilcoxon Signed Ranks Test Results of Alexithymia Prepost Test Scores of the 1st Experimental Group in Which MBCT Techniques Were Used.

	Pretest-Posttest	n	Average Rank	Rank Total	Z	P
Alexithymia	Negative order	9	9,33	84,00	-1,980	,048
	Positive order	5	4,20	21,00		
	Equal	0				

*Based on negative orders.

Table 5 shows that there is a significant difference among the alexithymia pretest and posttest scores of the individuals in the 1st experimental group (z= -1,980 p<.05).

The Mann Whitney U test results of the alexithymia final measurement scores of the individuals in the 1st experimental group who participated in the MBCT Program and the individuals in the control group who did not participate in such a program are presented in Table 6.

Table 6: Mann Whitney U Test Results of Alexithymia Posttest Scores of the 1st Experimental Group and Control Group.

	Group	N	Average Rank	Rank Total	U	P
Alexithymia	Exper. 1	14	10,18	142,50	37,50	,005
	Control	14	18,82	263,50		

According to Table 6, at the end of an 8-week experimental study, a remarkable difference was found among the alexithymia scores of the individuals in the 1st experimental group participating in the MBCT Program and the individuals in the control group (U=37.50 p<.05). The findings show that the MBCT Program is influential in reducing the alexithymia levels of individuals.

Hypothesis 2

Individuals in the 2nd experimental group participating in the AT program will have a remarkable decrease in alexithymia levels compared to the individuals in the control group.

Table 7: Wilcoxon Signed Ranks Test Results of Alexithymia Pretest-Posttest Scores of the 2nd Experimental Group in Which AT Techniques Were Used.

	Pretest-Posttest	n	Average Rank	Rank Total	Z	P
Alexithymia	Negative order	12	6,79	81,50	-2,521	,012
	Positive order	1	9,50	9,50		
	Equal	1				

* Based on negative orders.

In Table 7, it is seen that there is a remarkable difference among the alexithymia pretest and posttest scores of the individuals in the 2nd experimental group (z= -2.551 p<.05).

The results of the Mann Whitney U test of the last measurement scores of the alexithymia of individuals in the 2nd experimental group who participated in the art therapy program and the individuals in the control group who did not participate in such a program are presented in Table 8.

Table 8: Results of Mann Whitney U Test of the 2nd Experimental Group And The Control Group Alexithymia Final Measurement Scores.

	Group	N	Average Rank	Rank Total	U	P
Alexithymia	Exper. 2	14	11,21	157,00	52,00	,034
	Control	14	17,79	249,00		

According to Table 8, at the end of an 8-week experimental study, a remarkable difference was found among the alexithymia scores of the individuals in the 2nd experimental group participating in the AT program and the individuals in the control group ($U=52.00$ $p<.05$). The findings show that the AT program is influential in reducing individuals' alexithymia levels.

Hypothesis 3

A therapy program using AT techniques will be more effective in reducing alexithymia levels compared to the MBCT Program.

Mann Whitney U test outcome of the alexithymia final measurement scores of the individuals in the 1st experimental group participating in the MBCT therapy program and the individuals in the 2nd experimental group participating in the AT program are given in Table-9.

Table 9: Results of the Mann Whitney U Test of Alexithymia Final Measurement Scores of the 1st Experimental Group And The 2nd Experimental Group

	Group	N	Average Rank	Rank Total	U	P
Alexithymia	Exper. 1	14	12,96	181,50	76,50	,322
	Exper. 2	14	16,04	224,50		

According to Table 9, at the end of an eight-week experimental study, there was no remarkable difference among the alexithymia scores of the individuals in the 1st experimental group participating in the MBCT program and the individuals in the 2nd experimental group participating in the AT program ($U=76.50$, $p>.05$). According to this finding, it can be said that there is no remarkable difference between the effects of group practices using AT techniques and group practices using MBCT techniques on individuals' alexithymia scores.

DISCUSSION

This study examined the effect of group practices using MBCT and AT techniques on the alexithymia levels of individuals.

One of the research findings is that the MBCT Program is effective in decreasing the alexithymia levels of individuals. This hypothesis was established with the expectation that individuals participating in the MBCT Program would be able to distinguish and connect their feelings and thoughts, to seperate their emotions and bodily sensations, to notice and express all these. Mindfulness has been growingly used in clinical psychology as an addition to cognitive and behavioral treatments. (Cash & Whittingham, 2010). MBCT enables individuals to become aware of that their thoughts are just thought and their feelings are just emotion. Being aware that these thoughts and feelings of individuals are similar to the feelings and thoughts of other people will prevent their judgmental attitudes to themselves. (Brown & Ryan, 2003; Zvolensky et al., 2006). Therefore, alexithymic individuals learn to distinguish their thoughts and feelings. They advance their emotional improvement steps from lower to higher levels. This leads to a decrease in somatization and an increase in verbal expression of emotions (Wolf, 1977). In mindfulness-based therapies, body scanning teaches basic concentration skills, mindful breathing, awareness of thoughts and feelings, bodily sensations, keeping distance and awareness of what is experienced through the body (Ogel, 2011). It is useful to use techniques that focus attention on bodily sensations, as well as mindfulness-based group therapies, which enables individuals to disclose their feelings and fantasy experiences that they are not aware of (Kocak, 2002). The goal of mindfulness-based intervention programs is not to eliminate compelling emotions, but to provide the individual

with understanding, acceptance and awareness of compelling emotions as in positive emotions. Looking at the studies in the literature, it is clear that mindfulness based therapy applications have significant effects on cognitive and emotional processes (Baer, 2007; Cooper, Frone, Russell & Mudar, 1995; Demir & Gundogan, 2018; Johnson & Larson, 1982; Mennin, Heimberg & Fresco, 2005; Peker Akman & Demir, 2021).

In this study; cognitive techniques such as relaxation training, psychoeducation, self-direction, cognitive restructuring, and social skills training were applied, along with mindfulness skills such as separation (defusion), focusing on the present, nonjudgmental acceptance. Mindfulness-based therapies aim to enable individuals to accept their thoughts and feelings without judging or ignoring them by concentrating on their lives in the "right now, this minute". This study observed that the MBCT Program increased the positive effects of the participants such as emotion regulation, increased empathy skills and cognitive flexibility. Santarnecchi et al. (2014) reported in their research that mindfulness-based stress reduction program is a promising psychosocial intervention that can be used to reduce alexithymia. In a group study by de la Fuente Arias, Justo & Granados (2010) in which mindfulness-based program was applied, it was observed that students' alexithymia levels decreased. As a conclusion of the mindfulness-based training program conducted by Bornemann & Singer (2017), it was observed that there was a decrease in the alexithymia levels of the participants. Findings of our study are alike to the findings of these researchers.

Another finding of the study is that group practice with AT techniques is also effective on individuals' alexithymia levels. In the study, group sharing and group discussions were included by using AT methods such as music, painting and collage. It was expected that these activities would help the participants gain awareness of their thoughts and relax by expressing their emotions, thus reducing their alexithymia levels. In the study of Theorell et al.(1998), it was seen that encouraging the expression of talents through art in physical ailments of psychological based, and that art is a bridge among the physical and mental states of individuals. Repressed thoughts and feelings emerge through art, with visual symbols rather than words (Babaoğlu, 1988; Roditi, 1988). Art is a multidirectional object of interaction. In an emotionally blocked individual who cannot express their feelings towards a specific person or environment, symbols can help to reveal their feelings about this environment without creating too much guilt. Individuals provide emotional discharge by confronting the feelings of being bad and guilt that they cannot express through AT (Aydın, 2012; Killick, 1993). Kim & Ki (2014) tried to examine the effectiveness of art therapy within their group program. High school students involved in the study. It was determined that there was a substantial development in the emotional awareness scores of the participants and a substantial decrease in the somatization levels after the application.

In the literature, it is stated that it is difficult for traumatized individuals to express their feelings verbally, and words are limited in expressing their feelings, therefore it is emphasized that art is useful (Aydın, 2012). AT process provides self-disclosure and self-awareness. Individuals who are alienated from the common language of their environment with their thoughts, feelings and behaviors, and withdraw into their own inner world, have shown positive improvements in recognizing the emotional expressions of other members, noticing and expressing their own feelings, and showing appropriate reactions as the group process progresses. It has been observed that AT is effective in achieving these goals. In the study of Montag et al. (2014), in which they tested the effectiveness of AT in schizophrenia patients, it was found that while positive and negative symptoms decreased significantly, there was a remarkable increase in emotional awareness levels. In studies measuring the effectiveness of AT in individuals who continue to fight with cancer, it has been observed that there is a positive improvement in the emotions, self-awareness and behaviors towards other of the study's participants (Luzzatto and Gabriel, 2000).

In addition to it's rehabilitative feature, art has a very effective means of reflection in expressing thoughts and feelings. It is known that alexithymic individuals have difficulties in verbalizing their suppressed emotions and underlying conflicts. AT provides individuals with a wide opportunity to describe and analyze their emotions. That's why, the aim of AT is to bring the suppressed feelings and thoughts of the person to the level of consciousness and to raise their awareness. AT has been observed to have a rapid effect in achieving these goals. Awareness of one's emotional world facilitates the process of changing a negative emotional state and reaching positive emotion. Gunay (2017) tested the effectiveness of AT in his study with schizophrenia patients. The findings of the study indicated that the negative and positive symptoms and alexithymia levels of schizophrenic patients who participated in the AT program decreased. AT program that lasts for 150 minutes for six weeks was applied to individuals diagnosed with major depression by Nan & Ho (2017). At the end of the program, a decrease in the alexithymia levels of the participants was detected. These results are similar to the results of the research.

One of the research findings is that there is no remarkable difference among the alexithymia posttest scores of the group participating in the MBCT program and the group participating in the AT program. The Therapy with Art Program, which focuses on symbolically satisfying the unfulfilled needs of the participants through artistic materials, sharing and expressing emotions, is expected to be more effective than the MBCT,

which is structured to concentrate on their current experiences and to accept their thoughts and feelings without judging and ignoring them. However, the results did not confirm this expectation. The lack of studies in the literature by applying mindfulness-based approaches and AT techniques to reduce alexithymia limits our comparison of our findings.

As a result, it can be said that mindfulness-based cognitive therapy practices are as effective as group practices using art therapy techniques in reducing alexithymia. In the past years, meta-analysis studies to evaluate how effective psychotherapies are compared to each other have revealed conflicting results. For this reason, some researchers claimed that different psychotherapies gave more or less the same results in terms of effectiveness and named this situation as the Dodo Bird Judgment, referring to the book "Alice in Wonderland" (Rosenzweig, 1936). According to this approach, all types of psychotherapy approaches are effective, provide equal positive outcomes as a result of common factors, and no method is superior to the other. In particular, positive acceptance and therapeutic alliance, a healing environment, hope and positive expectations predict the variance of therapy outcomes more than original techniques (Guven & Gökçe, 2018). On the other hand, while some professionals think that the therapy methods applied during group practices are effective, some professionals think that group dynamics, interpersonal interaction, sharing and belonging will be more effective (Jacobs, Masson, Harvill, & Schimmel, 2011). The relationship-oriented conduct of both groups suggests that they may have produced similar results.

This research has some limitations. Since the research data was obtained from second and third year university students, it can only be generalized to similar groups. On the other hand, studies on large sample groups are needed to increase generalizability. Since the participants in the study participated in the group study independently of the experimental procedure applied, the researchers expected a positive behavioral change in themselves, so the lack of a placebo group to control the effect resulting from a special effort not to frustrate this expectation can also be considered as a limitation. Another limitation of the study is that there was no follow-up measurement. This situation precludes assessing the long-term impact of the study's results.In addition, factors such as living conditions, family life, and income level that may affect the results of the study were not taken into account. Another limitation of the study is that the individuals participating in the study cannot be prevented from coming face to face and interacting at the school where they studied.

It is thought that it would be appropriate to consider these limitations in future studies.

As a result; according to the literature is examined, there has not been enough research in terms of studies on the effectiveness of AT and mindfulness-based intervention programs to reduce alexithymia in Turkiye. Below are the recommendations based on the results of the research. Recommendations are presented under two headings. In the first title; based on the findings obtained as a result of the research, suggestions for practitioners were presented. Under the second heading; recommendations for future research are included.

Recommendations for Experts Working in the Field

1. With the increase in the number of specialists trained in art therapy and mindfulness-based therapies, it is thought that these approaches, which have been used for many years all over the world, will be better known, applied and subject to research in our country.
2. The scope of the program can be expanded by making the program sessions applied in the study more detailed and increasing the number of sessions.
3. Experimental studies on alexithymia are limited in Turkey. Studies on alexithymia that will contribute to the literature in different designs can be carried out on individuals from different age groups.

Recommendations for Future Research

1. In this study, individuals' alexithymia levels were discussed. Similar studies can be conducted on other subjects such as depression, anxiety and stress, which are included in the variables that alexithymia is associated with.
2. Similar studies can be carried out on larger sample groups with various characteristics.
3. The content of the program can be expanded by detailing the sessions of the prepared programs and increasing the number of sessions.
4. Permanence tests can be applied at certain periods to test whether the effect of the implemented program is long-lasting.

Authorship Contribution

This research was conducted by a single author.

Ethics Committee Approval Information

Ethics committee approval was not obtained because the data for this study were collected before 2020. In line with the Declaration of Helsinki, the individuals participating in the study were informed about

the purpose of the study, how the data collection process would be carried out and how long it would take, and their verbal consent was obtained.

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