Developing a Culture-Adapted Mindfulness Stress Reduction Program*

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Abstract

Stress is part of survival as a driving force, but excessive stress can cause mental and physical harm. According on the circumstances and time of time, stress manifests itself in various ways and causes a variety of symptoms. In this context, numerous sorts of studies on stress and coping mechanisms have been conducted since people's methods of dealing with stress vary from one individual to the next and from one culture to another. This study, which uses empirical research, looks at the outcomes of a stress-reduction program developed using mindfulness principles that have been culturally adjusted. This program has been tested on the level of life satisfaction, mindfulness, and stress levels of individuals. The program was called as the "Culture-Adapted Mindfulness Stress Reduction Program" (CAMSR). In this study, 2x3 experimental model was used with the pre-test, post-test, follow-up test, and control-experimental groups. As a result of the analyzes, it can be said that culture-adapted stress reduction program has shown significant differences between the groups (control and experimental groups) in terms of three variables. The results show that CAMSR has a positive and lasting impact on each of the three factors.

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INTRODUCTION

We are witnessing a period in which there are scientific, social, and technological rapid changes that have not been seen in any period of history. Adapting to this rapid change can become an important source of stress on individuals. Nowadays, the predictability of the speed and direction of change is almost disappeared, in literature there are many studies showing that individuals experience intense anxiety and stress depending on this situation (Bohlmeijer, 2010). The anxiety that has arisen, makes it difficult for people to adapt and stay in balance (Selye, 1955). In this respect, it is very important to support the students with different psychological support programs in the university environment where there is intense anxiety and stress.

This anxiety and stress experienced intensively during the university period affects human life in many ways such as heart disease, chronic pain, mental disorders, coronary heart disease, cardio-vascular diseases, cancer and depressive symptomatology (Llyold-Jones et al, 1999; McElnay and McCallion, 1998; Blyth et al, 2001; Catala et al, 2002; Verdurmen et al, 2006; Ormel et al, 2007; Massie and Popkin, 1998; Ciaramella and Poli, 2001; Patten, 2001). This also affects daily life comfort such as excessive burnout, chronic pain, recurrent diseases, insomnia, loss of concentration and distraction (Alonso et al., 2007). In addition, basic life stressors such as losing relatives, divorce, illness, injury, marriage, job changing, retirement, pregnancy and financial changes disrupt the physical, mental, emotional and mental balance of the human body. Recently, experts have suggested that even routine and secondary stressors, such as telephone calls, loud voices and intensive programs, cause stressful effects and cumulative results (Frey, 1999).

"Mindfulness Based Stress Reduction" (MBSR) is the leading of these programs. The concept of mindfulness was used by Kabat-Zinn to focus on the moment without judgments and to be conscious of the moment in the moment (Kabat-Zinn, 2005; Rosenszweig et al., 2007). Mindfulness leads to a positive increase in health outcomes. For example, Kabat-Zinn reported that he decreased the levels of pain, body perception, medical symptoms, mood, somatization, anxiety, depression, and self-esteem (Kabat-Zinn et al., 1985). Other studies have also shown that people help to cope with many problems; chronic pain, burnout, stress reduction, some types of cancer, heart attack, type 2 diabetes, psoriasis, insomnia, such as (Kabat-Zinn, 1982; Reichers et al., 1997; Chang et al., 2004; Smith et al., 2005; Rosenzweig et al., 2007).

In this study, the preparation and evaluation of a program has been taken as a basis. This program is named as Culture-Adapted Mindfulness Stress Reduction Program (CAMSR) based on the mindfulness theory of which the origin is based on east but more widely and scientifically used on the west, and also which includes the techniques of the elements in our culture. It is thought that students develop learning styles in accordance with the society they live in and a more effective way can be followed with a program to be prepared in this way. Therefore, it was thought that it would be more effective to include elements that include techniques and learning models in accordance with Islamic understanding and Turkish culture, not only based on mindfulness. The aim of this study was to investigate the effects of (CAMSR) on the Life Satisfaction, Minfulness and Stress levels of university students. In order to demonstrate the effectiveness of the program in accordance with these objectives, the following hypotheses are presented: 1) CAMSR increases the level of mindfulness of students and this increase is prolonged. 2) CAMSR increases students' life satisfaction levels and this increase is prolonged. 3) CAMSR declines students' stress levels, and this decline is long-term.

METHOD

In this study, 2x3 experimental model was used with the pre-test, post-test, follow-up test, and control-experimental groups. Within this method, the first factor means process groups (an experiment, a control); the second factor is the measurement of the dependent variables (pre-test, post-test, follow-up test). While CAMSR was applied to the experimental group, different activities related to stress were applied and the placebo effect was measured. In the study, the Culture Responsive

Stress Program was an independent variable; students' life satisfaction, mindfulness and stress levels were included in the model as dependent variables.

Study Group

The study group consisted of first and second grade students at Ercis Vocational School in Van Yuzuncu Yil University. Three measures were applied to the students as pre-test and three criteria were determined for participation in the research. Volunteers were selected from the participants whose 1) mindfulness levels were low, 2) life satisfaction levels were low and 3) stress levels were high. These students were randomly assigned to the control and experimental groups of the study. 331 students from seven different departments participated in the pre-test. 165 of these students are female and 166 are male students. And the students meeting these criteria were selected to control and experimental groups which each group had 20 students.

Data Collection Tools

The following scales were applied to test both hypotheses and the program's efficacy. All scales used in the study were selected in accordance with the participants of the study group. And also, "The Personal Information Form" was used to obtain detailed information about the students.

1. "Mindful Attention Awareness Scale" (MAAS), developed by Brown and Ryan (2003), is a 15-item scale that aims to measure the general tendency of being aware of daily experiences. This scale also measures the attention of instant experiences of individuals in daily routine. The scale has a single factor structure. The factor loads of the items vary between .27 and .78 levels. Confirmatory factor analysis showed the fit indices like that (c2 / sd) = 189.57 / 90, GFI; .92, CFI: .91, RMSEA: .058). These fit indices mean this single factor structure could be used. The internal consistency coefficient of the scale is .82. Total correlations of the items obtained from the scale varied between .25 and .72.

2. "Satisfaction with Life Scale" (SWLS), was developed by Diener, Emmons, Larsen and Griffin in 1985. This scale was applied and adapted to Turkish culture by Dağlı and Baysal in 2016. There are five items on the scale. For the entire scale, the consistency coefficient was determined to be r = 0.88. The scale exhibits a good level of internal consistency, per the results. The CFA-calculated (x2 / sd) ratio is 1.17 and this value shows that the proposed factor model fits well with the data. Test-retest reliability for the scale was 0.97 and its internal consistency coefficient was 0.88.

3. "Perceived Stress Scale" (PSS), was created in 1983 by Cohen, Kamarck, and Mermelste, and its Cronbach Alpha score was 0.86. In 2007, Bilge, Öğce, Genç, and Oran translated the scale into Turkish, and they discovered that the scale's Cronbach's alpha value was 0.81. The scale yields a final score that ranges from 0 to 32.

Data Collection Process

The study was carried out after the necessary permissions. The students, in the first and second classes of the Vocational School took part in pre-test application on a voluntary basis. The data obtained after the pre-test were analyzed at SPSS program. 40 students, whose low mindfulness and life satisfaction scores and high stress scores, were selected on a voluntary basis. Twenty of these students were randomly assigned to the experimental group and 20 to the control group.

Following the appointment of the experimental and control groups, a suitable environment was arranged and the implementation of the program was started. CAMSR is designed as 8 sessions considering the results of the applications in the literature. The first of these sessions includes the meeting session and the last session is organized as a re-session of termination and techniques. The average session time varies between 1 and 1.5 hours depending on the content of the session. At the end of the program, the post-test was applied to the study group. The data obtained from the post-test

application were analyzed and the difference between post-test and pre-test were examined. Follow-up test was performed approximately 2 months after the post-test. The data obtained from the pre-test, post-test and follow-up test applications were transferred to SPSS program and appropriate analyzes were performed to measure the effectiveness and permanence of the program.

Data analysis

Pre-test, post-test, and follow-up measurement scores were analyzed by ANOVA. The significance level for the measurements was taken as .05. There wasn't any significant difference between the groups according to the pre-test. We will see this at t-test results. Arithmetic averages were taken for the selection of the students to be included in the program. To regulate data, extreme values were not included in the analysis. Descriptive statistics were given, and the characteristics of the study group were given in findings section. Two-factor variance analysis was used to compare the pre-test, post-test, and follow-up test results between the experimental and control groups. Bonferonni test was used to compare the mean of pre-test, post-test and follow-up test scores of the scales. The error margin was accepted as .05.

FINDINGS

Findings about CAMSR

To determine the effectiveness of CAMSR on mindfulness, life satisfaction and stress levels in terms of the above hypotheses, the mean scores of the experimental and control groups after the pre-test were given in the following tables. In the first table, the averages of mindfulness scores are given according to the groups. In the next two tables, the mean of life satisfaction and stress levels according to the groups is given respectively.

Table 1. T-test Results of MAAS by groups

Group	N	x̄	Ss	Sd	t	p
Exp.	20	39,85	4,83708	38	,800	,429
Con.	20	38,75	3,7957			

Table 2. T-test Results of SWLS by groups

Group	N	x̄	Ss	Sd	t	p
Exp.	20	9,95	3,51650	38	1,255	,217
Con.	20	8,70	2,73573			

Table 3. T-test results of PSS by groups

Group	N	x̄	Ss	Sd	t	p
Exp.	20	23,70	2,27342	38	,322	,749
Con.	20	23,45	2,62528			

Considering the above three tables, the participants were distributed to the groups in accordance with the taken criteria. According to these results it can be said that conducting this application with these groups is suitable for this study.

Findings Related to Mindfulness

This section consists of the results of three applications, ANOVA test results and Bonferroni test results of MAAS. At first, the mean and standard deviations of experimental and control groups according to three tests are given in the following table.

Table 4. The Mean and Standard Deviation Values of MAAS

		Pre-Test			Post-Test			Follow up Test	
Groups	**N**	**x̄**	**Ss**	**n**	**x̄**	**Ss**	**n**	**x̄**	**Ss**
Exp.	20	39,85	4,83708	20	76,10	3,76829	20	72,60	4,21026
Control	20	38,75	3,79577	20	40,45	4,47772	20	40,55	4,66200

In this table, the mean of the experimental group participants' scores from the MAAS before the CAMSR was x̄ = 39.85, but after the implementation it increased to x̄ = 76.10. The mean of the control group in the pre-test was x̄ = 38.75 and the mean of the post-test was found x̄ = 40.45. Accordingly, there is an increase in the level of mindfulness of the experimental group participants. In the pre-test, post-test, and follow-up tests of the experimental, the scores obtained from the MAAS increased and this increase is permanent despite of a little of decrease. To determine the significance of the differences between the scores of control groups in terms of three tests, the ANOVA results for the repeated measurements are given in the following table.

Table 5. ANOVA Results of MAAS Measurements

Source of Variance	SS	Sd	SM	*F*	p
Between groups	**17273,7**	**39**			
Group (Exp/Control)	15778,133	1	15778,133	400,898	.000
Error	1495,567	38	39,357		
Within Groups	**16656,667**	**56**			
Measure	8818,217	2	4409,108	537,667	.000
Group*Measure	7215,217	2	3607,608	439,929	.000
Error	623,233	76	8,200		
Total	**33930,367**	**95**			

When we look at the table, it was observed that the group effect was significant (F (1-38) = 400,898; p <.05) in the repeated tests for means of MAAS. This indicates that there is a considerable disparity between the two groups' mean scores. Besides, it was found that the difference between the mean scores of the participants in all three measurements is significant (F (2-76) = 537,667; p <.05). Accordingly, it can be said that the levels of mindfulness of the participants of the experimental group were changed as a result of the experimental procedure.

Considering the findings given in the above tables, it can be said that the first hypothesis proposed in this study was confirmed. According to the results obtained from the analysis, there is a significant difference between the experimental and control groups depending on the measurements. The results obtained from the analysis of variance show a significant difference between the groups depending on the measurements. In the analysis of variance, the difference between the groups is determined by the post-hoc test statistics which group is the source of this difference (Kayri, 2009). To find out the source of meaningful difference in measurement * group interaction in three measurements related to Mindfulness, pair-wise comparisons were made with Bonferroni method. The paired comparison results for the experimental and control groups are given in the table below.

Table 6. Post-Hoc Table of MAAS

			Experimental			Control		
			Pre-test	Post-test	Follow-up	Pre-test	Post-test	Follow-up
Experimental		Pre-test	_	-36,250*	-32,750*	1,100		
		Post-test		_	3,500*		35,650*	
		Follow-up			_			32,050*
Control		Pre-test				_	-1,700	-1,800
		Post-test					_	-,100
		Follow-up						_

*p< .05

When the table is examined, the difference between the mean scores of MAAS' pre-test and the post-test of the experimental group participants is meaningfully significant (-36,250; p <.05). According to this result, it can be said that the experimental process significantly increased the mindfulness levels of the experimental group participants. Additionally, it was noted that the experimental group participants' mean scores in the follow-up test showed a significant difference (-32,750; p <.05). On the other hand, there was no discernible difference in the control group participants' mean pre-test, post-test, and follow-up test scores (F = -1,700; p <.05). According to these results, it can be said that mindfulness raising practices show their effect on the process and this effect is persistence. This change can be easily seen in the following figure.
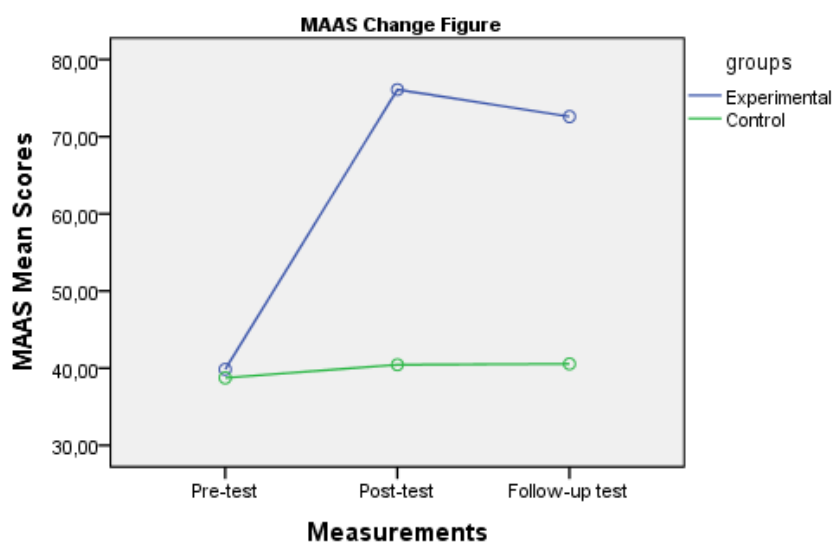

Figure 1. Change of Mindfulness Scores Depending on Groups and Measurements

As seen in Figure 1, there is a big difference in the lines of change between groups. While there was a regular increase between the pre-test and post-test measurements of the participants in the Experimental group, there was little variation between the mean scores of the Control group. In terms of the follow-up tests, the scores of the participants in the Experimental group were still high. When the Control group's follow-up test chart is examined, it is almost the same with the Post-test.

It is possible to see that the CAMSR is very effective on mindfulness levels of the university students in experimental group. The persistence of the increase in mindfulness level was also demonstrated by the meaningful results of the follow-up tests.

Findings Related to Life Satisfaction

The second variable of this study is life satisfaction. The t-test was used to test whether the pre-test mean scores of the Experimental and Control groups from the SWLS were equivalent to each other prior to the implementation of the program, and according to these results, the difference between the mean scores of both groups before the application was not significant [t (38) = , 217; p> .05] as seen in the Table 2. The mean and standard deviations of the scores of Experimental and Control groups according to three tests are given in the table below.

Table 7. Mean and Standard Deviation Values obtained from SWLS

Groups	Pre-test			Post-test			Follow-up test		
	n	$\bar{x}$	Ss	n	$\bar{x}$	Ss	n	$\bar{x}$	Ss
Experimental	20	9,95	3,51650	20	19,20	3,62157	20	18,85	3,66024
Control	20	8,70	2,73573	20	9,00	2,53398	20	9,65	2,45539

As shown in Table 7, the mean of the scores of Experimental group participants in the pre-test was x̄ = 9.95, while the post-test score was x̄= 19.20. Accordingly, it can be said that there is an increase in the life satisfaction levels of the Experimental group participants, and the life satisfaction levels of the Control group participants who are not included in the applied program have a low increase.

Experimental and Control groups in the Pre-test, Post-test and Follow-up tests that the scores they received from SWLS is changing, it is possible to see the change in accordance with the hypothesis of the study. ANOVA test was performed to see whether this change was meaningful and whether the difference between the tests was significant in the desired direction. The results of ANOVA for repeated measurements applied to determine the significance of the differences between the experimental and control groups in terms of three tests are given in the table below.

Tablo 8. ANOVA Results of SWLS Measurements

Source of Variance	SS	Sd	ST	*F*	p
Between Groups	**2189,591**	**39**			
Group (Experimental/Control)	1421,408	1	1421,408	70,313	.000
Error	768,183	38	20,215		
Within Groups	**1458,001**	**56**			
Measure(ön-son-Follow-up)	627,717	2	313,858	68,295	.000
Group*Measure	481,017	2	240,508	52,334	.000
Error	349,267	76	4,596		
Total	**3647,592**	**95**			

p< .05

When we look at the table, it can be seen that the group effect is meaningfully significant (F (1-38) = 70,313; p <.05) in the repeated tests. According to this, it is possible to say that the difference between the mean scores of the two groups is meaningfully significant.

Besides, it was found that the difference between the mean of the scores obtained from all three measurements is meaningful (F (2-76) = 68,295; p <.05) without any discrimination in the Experimental and Control group. According to this, it can be said that Experimental group participants' life satisfaction levels changed into the process.

Considering the findings given in the tables above, it can be said that the second hypothesis proposed in this study was confirmed. According to the results of the analysis, it is seen that there is a significant difference between Experimental and Control groups' scores depending on the measurements. Besides, it was observed that according to the value obtained as a result of measurements, the effect of group * measurement was significant (F (2-76) = 52,334; p <.05). Two comparisons were made with the Bonferroni test in order to find out the source of the significant difference seen in the Experimental and Control groups in the measurement * group interaction.

Table 9. Post-Hoc Table of SWLS

| | | | Experimental | | | Control | |
		Pre-test	Post-test	Follow-up	Pre-test	Post-test	Follow-up
Experimental	Pre-test	_	-9,250*	-8,900*	1,250		
	Post -test		_	,350		10,200*	
	Follow-up			_			9,200*
Control	Pre-test				_	-,300	-,950
	Post-test					_	-,650
	Follow-up						_

p< .05

When Looking at table 9, we can see that the difference between SWLS' pre-test and post-test mean scores of experimental group was meaningfully significant (-9,250; p<,05). It is possible to say that the CAMSR significantly increased the life satisfaction levels of the Experimental group participants. In addition, it was observed that there was a significant difference (-8,900; p <.05) between the mean scores of the experimental group participants' follow-up test and post-test. According to this result, it is possible to say that the effectiveness of CAMSR on life satisfaction continues in the period after application process.

It is possible to see the effect of CAMSR on life satisfaction on graph of change between groups in the following figure.
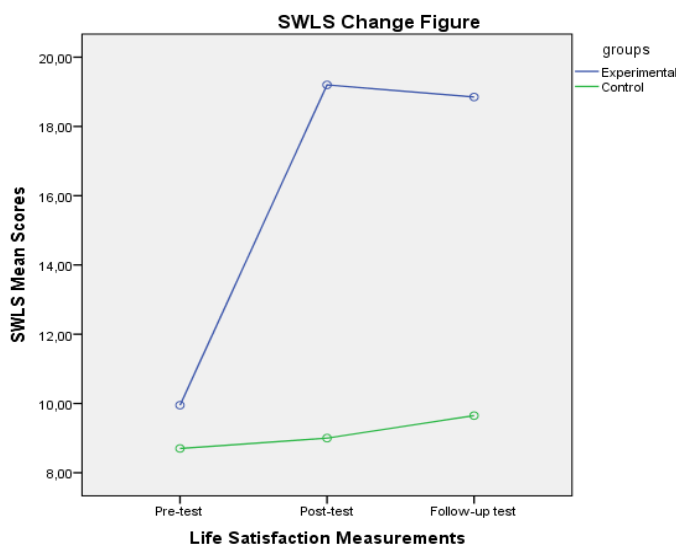

Figure 2. Change of Life Satisfaction Scores Depending on Groups and Measurements

As seen in the graph above, a very significant difference is observed between the measurements indicating the change between the measurements of the groups. While there was a steady increase in the experimental group's pre-test and post-test, there was little variation between the scores of the Control group among these measurements. Considering the change in the follow-up test, the scores of the participants in the Experimental group were higher compared to the pre-test, although they were less than the post-test. When the Control group's follow-up test chart is examined, it is seen that it is almost the same with the Post-test. According to this graph, it can be said that Experimental group's life satisfaction scores showed an increase in post-test compared to the first test, and that the change was permanent according to the follow-up scores.

It is possible to say that CAMSR increases the levels of life satisfaction of individuals. This confirms the second hypothesis of the study considering the differences between the groups regarding the life satisfaction levels. The persistence of the increase in life satisfaction levels was demonstrated by the significant results in the follow-up tests.

Findings Related to Stress

In this study, the third and last variable is stress, and the findings and comments about this variable are included in this section. To examine the last hypothesis, the mean scores of experimental group participants are increased by CAMSR or not. The means and standard deviations of the scores of Experimental and Control groups obtained from PSS according to Pre-test, Post-test and Follow-up test are presented in the table below.

Table 10. The Mean and Standard Deviation Values of PSS

	Pre-test			Post-test			Follow-up test		
Groups	**n**	**x̄**	**Ss**	**n**	**x̄**	**Ss**	**n**	**x̄**	**Ss**
Experimental	20	23,70	2,27342	20	8,30	2,02874	20	8,80	2,26181
Control	20	23,45	2,62528	20	22,50	2,43872	20	20,95	3,23590

In the table, the mean of the scores of Experimental group (n = 20) participants before te program PSS mean was measured as x̄ = 23.70, whereas the post-test scores were found x̄ = 8.30. It can be said that there is a decrease in the stress levels of the Experimental group participants after CAMSR implementation. In the follow-up test results, in terms of stress scores, the mean score from the Follow-up test of the Experimental group was found to be x̄ = 8.18. According to the follow-up test results, there was a slight increase in the mean scores of the Experimental group participants.

Table 11. ANOVA Results of PSS Measurements

Source of Variance	KT	Sd	KO	*F*	p
Between Groups	**2797,033**	**39**			
Group (Experimental/Control)	2270,700	1	2270,700	163,939	.000
Error	526,333	38	13,851		
Within Groups	**3316,667**	**56**			
Measure(ön-son-Follow-up)	1903,950	2	951,975	380,456	.000
Group*Measure	1222,550	2	611,275	244,296	.000
Error	190,167	76	2,502		
Total	**6113,7**	**95**			

p< .05

When Table 11 was taken into consideration, the effect of the group in the Experimental and Control groups was meaningfully significant (F (1-38) = 163.939; p <. 05). According to this, it can be said that the difference between the mean scores of the two groups is significant. On the other hand, it was found that the difference between the mean scores of the participants in all three measurements was significant (F (2-76) = 380,456; p <.05). Hence, it can be said that the stress levels of the participants of Experimental changed as a result of the applied program without discriminating the group.

Considering the findings given in the tables above, it is possible to say that the third hypothesis proposed in this study was confirmed. According to the results obtained from the analysis, it can be seen that there is a significant difference between Experimental and Control groups depending on the measurements. Besides, it was observed that the value obtained as a result of examining the effect of group * measurement was significant (F (2-76) = 244,296; p <.05). Two comparisons were made with the Bonferroni test in order to find out the source of the significant difference seen in the Experimental and Control groups in the measurement and measurement * group interaction. Double comparison results of Experimental and Control group are shown in the table below.

Table 12. Post-Hoc Table of PSS

		Experimental			Control		
		Pre-test	Son -test	Follow-up	Pre-test	Post-test	Follow-up
Experimental	Pre-test	_	15,400*	14,900*	,250		
	Post-test		_	-,500*		-14,200*	
	Follow-up			_			-12,150*
Control	Pre-test				_	,950	2,500*
	Post-test					_	1,550*
	Follow-up						_

*p< .05

When the table is analyzed, it is seen that there is a meaningfully significant change between the mean of pre-test and the mean of post-test of the experimental group (15,400; p <.05). According to this result, it can be said that the applied program significantly decreased the stress levels of the Experimental group participants. In addition, it was observed that there was a significant difference (14,900; p <.05) between the mean scores of the experimental group participants' pre-test scores and their follow-up test scores. According to this result, it is possible to say that the effectiveness of CAMSR on the levels of stress persists after the application and has a significant effect on permanence.
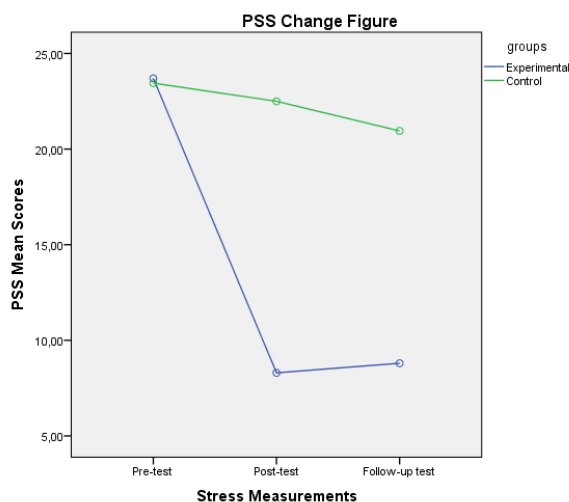
Figure 3. Change of Stress Scores Depending on Groups and Measurements

As seen in Figure 3, there is a significant difference between the measurements. While there is a regular decrease in the Pre-test and Post-test measurements of the Experimental group, there is little variation in the Control group's scores in these tests. Considering the change in the follow-up test, the scores of the participants in the Experimental group were lower than the post-test, but they were still lower than the pre-test significantly. According to the Follow-up scores, the change was permanent.

It is possible to say that the last hypothesis was confirmed with the results of measurements. The persistence of the decrease in stress levels was also demonstrated by the meaningful results of the follow-up tests. In conclusion, considering all findings, it is possible to say that the three hypotheses discussed within the scope of this study were performed by revealing significant results.

DISCUSSION

As the aim of this study is to examine the effects of CAMSR on Mindfulness, Stress and Life Satisfaction levels, an experimental process was performed. The data obtained from applied scales were analyzed by using the quantitative research design and the findings in the previous section were revealed. To enable students to learn and develop coping strategies against stressors they could face in their life and at school both culturally responsive and mindfulness-based stress reduction program prepared. The findings on the hypothesis were presented, and now discussions are given in accordance with the findings of three different variables.

Discussion on Mindfulness Results

Although studies on MBSR are more common in the literature, there is few studies conducted in Turkey. "Mindfulness-based Stress Reduction" by Kabat-Zinn is implemented by many institutions around the world as an MBSR course and continues to be implemented by Kabat-Zinn at the Massachusetts Institute. This practice continues to be used as a treatment intervention for mental or emotional disorders especially stress, depression, anxiety and eating disorders, as well as physical

health disorders such as cancer, chronic pain, psoriasis and heart diseases. The MBSR program is also applied in non-clinical cases. Many studies are carried out on healthy individuals (Kabat-Zinn, 1982). This application, which is used more actively in private institutions, is in demand in our country and continues to be implemented in a few private places. However, a cultural adapted MBSR experimental study has not been conducted in our country. The aim of this study is to reveal an effective program for higher education institutions and adults. So, this program consists of mindfulness practices and culturally coping strategies.

The program was found to be successful in raising levels of mindfulness, according to the study's findings. According to the results of analysis, the first hypothesis was supported. The findings of those with low levels of mindfulness improved after the intervention, and the Experimental group's results differed significantly from those of the Post-test group, despite a minor decline. MBSR and related therapies increase mindfulness and attention while reducing rumination, negative thinking and stress, as they teach individuals to accept the content of their thoughts (Teasdale, Moore and Hayhurst, 2002). In terms of mindfulness theory, the findings from the present study provide positive support to the levels of mindfulness, as the participants' progress in CAMSR education is directly related to the increases in positive mental states. A similar relationship has been reported between mindfulness and depression, rumination, stress, cognition, and mood-state status (Nolen-Hoeksema, 1991; Segerstom et al., 2000).

The positive feedbacks on CAMSR showed the effective side of this program. In the literature, the rate of attendance to programs based on mindfulness is quite high. In similar studies, dropout rates during an MBSR intervention were less than 20% (Kabat-Zinn, 1982; Shapiro et al., 1988). While the rate of attendance in a study is 92% (Kabat-Zinn, 1982), there is also a study in which there is no discontinuation (Parswani, Sharma and Iyengar, 2013). There is a similar situation in this study. The participants continued to attend the all sessions of this program.

Since many studies on mindfulness in the literature are involved, the conclusions of the meta-analytical studies, which put together several studies and puts forward the coefficient of influence, clearly demonstrate the effect of mindfulness. In this respect, studies using meta-analytical techniques have a wider perspective in mindfulness editing (Baer, 2003; Grossman et al., 2004; Toneatto and Nguyen, 2007). Additionally, there are many studies carried out with clinical patients. And, there are many studies conducted on healthy individuals like in this study. In a meta-analysis study conducted by Khoury (2015), 29 studies on MBSR were investigated for a total of 2668 healthy participants.

In a previous meta-analysis study, Khoury et al. (2013) examined a total of 209 studies involving 12,111 participants and reported that only 45% of these studies were conducted on mindfulness variable. In these studies, participants who participated in mindfulness practices had increased mindfulness levels in post-tests and showed that their gains in follow-up tests continued. This supports the results of this study.

As a result, it was observed that CAMSR increased the mindfulness levels according to the results obtained from this study and it was seen that similar results were obtained as a result of the above-mentioned mindfulness-based programs. Meta-analysis studies covering a large part of the studies on the subject were mentioned, and it is possible to see the results of many studies related to this subject have given similar results related to the mindfulness levels discussed in this study.

Discussion on Life Satisfaction

As a result of the literature reviews, there are mainly experimental studies on mindfulness-based programs examining the concept of psychological well-being, not specifically life satisfaction. As we know life satisfaction takes place as one of the concepts of well-being. MBSR was originally developed to treat the psychological and physical well-being of individuals with chronic pain and to support their psychological well-being (Kabat-Zinn, 1982). In addition to many studies supporting the

results of life satisfaction findings, it has been tried to give the results of meta-analysis studies including life satisfaction results.

In this context, in the meta-analysis study carried out by Khoury et al., the studies including the MBSR practices on healthy individuals were discussed and it was stated that these studies contributed to a significant decrease in the stress and increased the quality of life, satisfaction with life and psychological well-being (Khoury et al., 2015). In this meta-analysis study, 29 studies with a total of 2668 healthy participants were studied and the coefficient of influence (n = 26; Hedge's g = .55; 95% CI [.44, .66], p <.00001) was found. In this meta-analysis study which includes Experimental studies, it has been shown that there is a moderate effect on the variables.

In a study by Carmody and Baer (2008), they showed that mindfulness-based stress reduction program increased the level of mindfulness, level of well-being and life satisfaction of adult people, whereas stress levels decreased. The application of mindfulness practices increases the level of mindfulness, and this leads to a decrease in symptoms and positively affects the psychological well-being of individuals (Carmody and Baer, 2008). In this study, life satisfaction is considered as a sub-dimension of psychological well-being, and it has been suggested that the applied program has a positive effect on life satisfaction.

In the study of Fjorback et al. (2011) showed that MBSR improves mental health and prevents depressive relapse. Psychological well-being and life satisfaction levels of the individuals who are deprived of depressive status have been found to be positively increased. This is the case seen in 21 of the 73 studies included in the review (Fjorback et al., 2011). In their study, it was stated that all of the studies taken place in the review study reduced the stress levels. It was stated that life satisfaction levels were moderately increased in all 21 studies including life satisfaction concept.

As mentioned earlier, it is known that MBSR is carried out not only on healthy individuals but also on individuals with many different diseases and different results can be obtained. One of these studies, Huang and Lu Shi (2016) carried out their study on breast cancer patients. They stated that life satisfaction is considered as sub-dimension of well-being and mindfulness-based program has positive effects on patients and increases mental health, quality of life and life satisfaction levels. Similarly, in the review study conducted by Janssen et al. (2018), 24 studies on MBSR were discussed and it was stated that 15 of these studies highly increased mindfulness and quality of life.

In another study on clinical patients, Witek-Janusek et al. (2008) reported that patients with cancer had undergone an MBSR program and improved quality of life and increased life satisfaction levels. On the other hand, Kabat-Zinn expresses MBSR as a popular mind-body medicine intervention that can help the patients to cope with chronic pain, stress and diseases, to relieve their pain, to improve their quality of life, to improve life satisfaction positively and to feel themselves as a whole. (Kabat-Zinn, 1982, 2003, 2011). Developed in this respect, this program has a very successful background in positively affecting life satisfaction levels.

As a result, it can said that prepared program is effective on life satisfaction levels and these results show similarity with the studies carried out on same subject. We can also say that a culturally responsive and mindfulness-based stress reduction program increases the levels of life satisfaction. And this program is effective on well-being.

Discussions on Stress

In the third hypothesis discussed in the study, the program is designed to reduce stress levels of individuals. As a result of the findings obtained in this context, the stress levels of the individuals have decreased. Considering the studies that include programs based on mindfulness, many of these studies have revealed a decrease in stress levels. The findings of this study, which are based on the cultural background and the mindfulness-based stress program, are consistent with the empirical studies in the literature on the reduction of stress and rumination of MBSR training (Baer, 2003;

Brown and Ryan, 2003; Feldman et al., 2007; Jain et al., 2007; Ramel et al., 2004). In this direction, there are many studies in the literature, as well as meta-analysis and review studies. In this context, it is thought that the studies consisting of many studies results will be more effective in explaining the findings in this study.

Sharma et al. (2014) examined 17 studies carried out on healthy individuals. In their study, it was found that all interventions had some positive effects on decreasing stress levels as well as on psychological or physiological results related to stress (Sharma et al., 2014). In addition, Khoury (2013) reported in his meta-analysis that the effect of mindfulness based therapies decreased the levels of stress, anxiety and depression, physical illnesses or psychological disorders (Baer, 2003; Bohlmeijer et al., 2010; Chiesa and Serretti, 2010, 2011; Cramer et al., 2012; de Vibe et al., 2012; Eberth and Sedlmeier, 2012; Fjorback et al., 2011; Grossman et al., 2004; Hofmann et al., 2010; Klainin-Yobas et al., 2012; Ledesma and Kumano, 2009; Musial et al., 2011; Piet and Hougaard, 2011; Zainal et al., 2012). This review and meta-analysis studies have different and inconsistent results, the criteria they define, the factors included in the program, the inclusion of different individuals with physiological or psychological disorders in the practices and the number of participants.

In the review study conducted by Luberto et al. (2018), some data bases were selected as the criterion and the effect of MBSR on healthy individuals was examined. In the review of 27 studies in which the total number of participants was calculated as 1714, it was stated that the program was moderately effective on the observable outcomes. In addition, Eberth and Sedlmeier (2012), in their meta-analysis study, examined 39 studies that consisted of mindfulness-based practices on healthy adult individuals and had control group. In this review, most of the studies showed positive effect to decrease stress levels of the individuals.

In the meta-analysis study conducted by Fjorback et al. (2011), 21 researches with randomly selected groups were selected. As a result of this review, the effect size of mindfulness practices on stress was found to be moderate. Klainin-Yobas, Cho and Creedy (2012), in their meta-analysis study, which measures the effects of mindfulness-based stress programs on depression, have included 39 studies in accordance with the criteria, and these studies have shown that they have a high degree of impact on stress as well as depression.

As a result, it was seen that stress measurements were performed in many studies including mindfulness practices in the literature. Meta-analysis studies including most of these studies are given in this section. It has been observed that the practices carried out on healthy individuals generally reduce stress levels. In this context, it was determined that the stress findings of this study showed appropriate results for many studies in the literature.

RESULTS

Sociological, economic, and psychological changes occur rapidly in our country where many sufferings are experienced in the historical process. Besides, the effects of the changes in the internal dynamics on the education system of our country has been a subject of debate for many years. In addition to this, young people who are in the education system of our country from an early age are exposed to many stresses such as exams, divorces, loss, and regional problems. Each situation mentioned above directly or indirectly affects the lives of young individuals and makes stress situations in their lives. The aim of this study is to develop a program for coping with stress in higher education institutions. The effectiveness of a mindfulness-based and culture-sensitive stress program is discussed. As a result of the findings, it can be said that there is sufficient evidence that the program has positive effects on individuals, increases mindfulness and life satisfaction levels and decreases stress levels.

Considering the hypotheses taken in the scope of the research, firstly it has been tried to increase the mindfulness levels of students. The findings of this study showed that the level of

mindfulness of the participants increased. Considering that the Experimental and Control groups have close scores in the pre-test application, it was observed that the mindfulness levels of the Experimental group were increased significantly after the program. There was a low increase in the scores of the participants in the Control group. In addition, follow-up tests were performed after approximately two months following the implementation of the program, and after these measurements, the findings of the Experimental group were found to provide sufficient evidence of persistence. Although the concept of mindfulness is based on Asia as its origin, it is an important concept in many different parts of the world today, especially in America. In this context, it is stated in the scope of this research that the concept of mindfulness has many sub-dimensions in our culture, and it has an effect on individuals when a program is prepared in accordance with our culture.

The variable in this study and the second hypothesis is life satisfaction. In the context of the program, it was aimed to increase the life satisfaction of the participants in close relationship with psychological well-being. The findings of the pre-test and post-test results showed that the prepared program increased the life satisfaction levels of the individuals. The results of the analyzes showed that the increase in life satisfaction scores were significant compared to the Control group. In follow-up tests conducted to measure the persistence of the scores obtained after the application, it was found that the individuals continued the techniques within the program and that the life satisfaction scores were significantly higher. It is important to improve the attitudes of individuals on their psychological well-being and life satisfaction by focusing on the main focus and judicial acceptance of mindfulness. From this point of view, techniques are included in the program in a line close to the thought of praise and opinion. In this context, the findings of the program were found to increase the life satisfaction of the individuals.

Among the main objectives of the programs prepared on the basis of mindfulness, the stress which is often in the first place and at the starting point of this approach is included in the third hypothesis of this study. Likewise, the aim of this study is to reduce the stress levels of individuals. In the pre-test results, when Experimental and Control groups have close stress levels, the stress scores of the Experimental group decreased considerably in post-test results. The results of the analyzes revealed that the program reduces the stress levels of the individuals. When the follow-up test results were examined, the decrease in the stress scores was maintained and the permanence of the effects of the program was supported by the significant findings. It is known that the stress that affects the lives of individuals in many ways has negative consequences because of long or deep experiences. In this study, it is aimed to give a new perspective to the life of individuals to reduce or prevent these negative effects.

As a result, CAMSR is an appropriate program for young people in Turkey for developing coping strategies towards stress. Besides, this program can be applied and examined on other variables, such as depression, insomnia, anxiety, and some other physical and psychological disorders. On the other hand, though it has cultural strategies this program can be performed in other cultures to see the effectiveness. Considering the results of this study, we can say that this is an effective process for students dealing with many stressors in modern world with rapid change.

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