

Full Length Research Paper

The effect of recreational activities on the elimination of state-trait anxiety of the students who will take the SBS Placement Testⁱ

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The purpose of this study is to examine whether recreational activities have an effect on the elimination of state-trait anxiety of the students who will take the “SBS Placement Test” which is an exam for transition from secondary school to high school. For this purpose, as well as an information survey which determined the socio-demographic features, the Spilberger State-Trait Anxiety Inventory was administered as pre-tests to a total of 366 students studying in the 7th and 8th grades of Elementary Schools. The study was started with 60 students in total - 30 of whom as the intervention group and 30 of whom as the control group - randomly chosen among 123 students whose anxiety symptoms were found high and who stated that they would like to participate in the study voluntarily and had permission from their parents. Following the pre-test implementation, a program including recreational activities such as music, cinema, rhythm training, improvisation exercises, fun athletics, folk dances, scouting, educational games, picnic, orienteering, creative drama, basketball, football and volleyball was applied to the intervention group 2.5 h twice a week for 12 weeks. The study was completed with the administration of post-tests to the intervention and control groups one day before the SBS Placement Test. No significant difference was observed between the intervention and control groups in terms of the state and trait anxiety scores in the pre-tests, whereas a significant difference was observed between the mean scores of both groups in favor of the intervention group in terms of state anxiety ($p=0,000$) and trait anxiety ($p=0.004$) after the implementation of the activities. These results showed that the applied recreational activity program was effective in the elimination of state and trait anxiety attributes.

Key words: Recreational activities, state-trait anxiety, students, SBS placement test.

INTRODUCTION

In the Turkish education system, students take a central exam administered simultaneously throughout the

country to go to high school after secondary school. In respect to this exam; messages related to the fact that it

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is necessary to study hard to go to a good high school are continuously given by schools, families and the media. While the students who are at the transition stage to adolescence try to adapt the situations brought with age traits on one hand, they have to undertake the responsibility of this important exam and studying hard for academic achievement on the other. Young people who experience conflicts at the high school entrance stage and in the transition period to adolescence bearing the responsibility of succeeding in the exam, the uncertainty of the result may lead to anxiety (Varol, 1990; Yörükoğlu, 2004).

Anxiety is described to include one or most of the excitements such as sadness, distress, fear, sense of failure, helplessness, not knowing the result and being judged and as an adaptive mood against hazards (Cüceloğlu, 2006); whereas exam anxiety is defined as an unpleasant mood and stress which inhibits individuals to deliver their actual performance in an evaluation environment. It is mentioned to have cognitive and affective dimensions. The cognitive dimension is stated to include a kind of negative self-talk and thoughts as delusions for being unsuccessful and inadequate, whereas the affective dimension is stated to be a sensory dimension where autonomic nervous system is stimulated and which also includes physiological parts (Spielberger and Vagg, 1995).

Spielberger (1980) formed the basis of the two-factor theory of anxiety as a result of the studies he carried out and put the concepts of "state" and "trait" anxiety forth. The state anxiety is stated to reflect the subjective feelings of an individual related to the situation he is in and how he feels himself at certain moments and under certain conditions and trait anxiety is stated to be a feeling related to how an individual generally feels, his tendency to anxiety experience and a persistent state of anxiety and also to increase in times of intense stress and decrease in lack of stress (Beck et al., 1984; Lecompte, 1985; Spielberger, 1980).

In the literature, it is stated that efforts to search for identity and rapid changes experienced during adolescence cause anxiety. This anxiety can affect an adolescent's life negatively and can shake self-esteem and self-confidence together with particularly the exam preparation process, identity, school problems and changes in achievement. Exam anxiety is also mentioned together with the anxiety experienced because of the nature of adolescence and is stated to increase in direct proportion to the importance attached to it by the society (Hampel et al., 2008; Pat-Horenczyk et al., 2007; McDonald, 2001). It is stated that young people try different ways to remove anxiety arising in adolescence, even turn to risky behaviors damaging themselves (Ajduković, 1998; Ekşi, 1999; Yörükoğlu, 2004).

The sense of self-confidence is shaken when school problems and academic failures are added to these risky behaviors (Pat-Horenczyk et al., 2007, cited from Rogge by Şanlı et al., 2014).

Although playing games and doing sports are suggested to be helpful for children in managing their impulses and emotions and reducing the level of anxiety and in coping with trauma (Erden and Gürdil, 2009; Gestwicki, 1999), the situations, such as exams, triggering anxiety are included in training programs instead of improving problem solving skills through game supported studies in reducing the problems and anxiety experienced during adolescence.

Leisure activities eliminate negative feelings and thoughts and help achieve positive ones (Steptoe et al., 1989). Game and sports activities activate passive students in educational environments improve the quality of educational environment offered to children, school motivation and reduce exam anxiety (Çamlıyer and Çamlıyer, 2001; Hazar, 2000). As low-force, rhythmic and long-term activities do not force the body and include no risk of turning into a competitive content, participation in sports, social and cultural activities is recommended to cope with anxiety (Bond et al., 2002; Gosselin and Taylor, 1999). Implementation of these activities in groups increases its effectiveness (Cahill and Foa, 2005).

It is also stated that timing of the selected activities in the elimination of anxiety should not trigger anxiety (Brody, 1998).

As leisure activities are important in eliminating anxiety, especially exercising supports releasing hormones providing relaxation and so eliminates some negative feelings such as depression and anxiety, the importance of doing leisure activities is highlighted in many resources (Ba1taş and Baltaş, 1990; Kalyon, 1994; Müftüoğlu, 2005).

Considering all these literature data, it was wondered how the implementation of a recreational activity program to the students who will take the SBS Placement Test which is a high school entrance exam administered at the beginning of adolescence affects the elimination of state and trait anxiety.

The purpose of the study

The purpose of this study is to examine whether the recreational activity program implemented to the 7th and 8th grade students who will take the SBS Placement Test and have high state-trait anxiety in groups for 12 weeks without giving any psychological support has an effect on the elimination of anxiety symptoms.

Research question

Does the implementation of the recreational activity program administered to the 7th and 8th grade students who experience state-trait anxiety and will take the SBS Placement Test in groups for 12 weeks have an effect on the elimination of state and trait anxiety?

MATERIALS AND METHODS

Subjects

This research is an experimental design study. The intervention and control groups were constituted by 60 primary education students, who attended the 7th and 8th grades at Kazım Karabekir Elementary School in Ümraniye, İstanbul, had high state-trait anxiety levels and participated in the study voluntarily; 30 were the intervention group and 30, the control group.

The study was started after obtaining the necessary permissions from National Education Directorate of Ümraniye District and Ethics Committee of Kocaeli University. The activity program was planned in such a way that termination of the activity schedule and the post-tests right after it would be performed one day before the exam in accordance with the exam schedule due to the fact that the SBS placement test would be performed at the end of the spring term.

Determination of the students constituting the study group

The information survey which determined the socio-demographic features and the Spilberger State-Trait Anxiety Inventory were administered to 366 students who studied in the 7th and 8th grades at Kazım Karabekir Elementary School in Ümraniye İstanbul and would take the SBS Placement Test. A meeting was held with 123 students who said “yes” to the question asked in the information survey “Would you like to participate in the social, cultural and sportive activities to be performed?” Among the 210 students who were identified to experience high level of anxiety symptoms and their parents and they were informed about the purpose of the study and the implementations of the activities. 30 students randomly chosen among the 123 volunteer students with permission from their parents who stated that they would participate in the activity program regularly were assigned as the intervention group and 30 students who had permission from their parents but stated that they would be studying for the exam during the activity hours were assigned as the control group.

Preparation of the recreational activity program

During the preparation of the activity program, it was paid attention to be after studying hours and supporting the sense of “can do” (Kılbaş, 2004) as in the definition of recreation. As timing of the selected exercise not being a matter of anxiety and the person’s not thinking about how to allocate time are considered important for the sense of “can do” (Brody, 1998; Gökçe, 2004), a program based on volunterinees of the students including activities the students preferred and could participate in after the studying hours was prepared. Considering the students’ wishes as well as the literature information, this program included activities appropriate to the students’ interests after the studying hours. In the implementation procees of the activities, situations such as getting bored with the activity and whether they wanted to repeat the activity or not were also taken into consideration. In line with the requests from the students, a program including recreational activities such as music, cinema, rhythm training, improvisation exercises, fun athletics, folk dances, scouting, educational games, picnic, orienteering, creative drama, basketball, football and volleyball was prepared. As exam preparation was of priority for the students participating in this study, the activity program was implemented after school and studying hours. The activity program, which the students participated in groups, was implemented at 2.5 h twice a week for 12 weeks. Creative drama, volleybal, football and basketball activities were implemented in groups of 15 students in different periods of time. All the other activities were performed with the simulataneous participation of all of the 30 students. The content of

the program for the planned and implemented activities are given in Table 3.

Data collection tools

Information Survey: A 16-item information survey determining the socio-demographic features of the students, whether they would like to participate in this study or not and if they did, what kind of activities they preferred was prepared.

State-Trait Anxiety Inventory: The State-Trait Anxiety Inventory developed by Spielberger et al. (1970) and adapted to Turkish by Öner and Le Compte (1985) consists of two sections, each of which includes 20 items, and 40 items in total. The total score value obtained from each scale varies between minimum 20 and maximum 80 and high scores indicate high anxiety level (Öner and Le Compte, 1985). In the reliability study of the scale carried out by Öner and Le Compte (1985), the Alpha reliability coefficient was found between 0.83 and 0.87 for trait anxiety scale and between 0.94 and 0.96 for state anxiety scale. In the pre-tests for this study, the Cronbach Alpha reliability coefficient was found as 85.4% for the trait anxiety inventory and 80.4% for the state anxiety inventory. In the post-tests, the Cronbach Alpha reliability coefficient was found 89.9% for the trait anxiety and 74.4% for the state anxiety.

Statistical analysis

The demographic features were taken as percentages. First, whether the demographic distributions of the intervention and control groups were homogeneous or not was tested with the Levene test and the variances were determined to be homogeneous. The student’s t test was used in comparison of the pre-test and post-test results for the state-trait anxiety levels of the intervention and control groups; and the paired t test was used in the comparison of the pre-tests and post-tests of each of the intervention and control groups separately in terms of both state and trait anxiety as it was appropriate for the normal distribution.

RESULTS AND DISCUSSION

The average age of the students participating in this study was determined as 13.60±.49. It was ensured that the intervention and control groups were similar in terms of the variables such as gender, income status, parental education level and the number of siblings, which were reported to affect the anxiety state in the studies examined. Considering the literature, as well as studies finding, the girls’ anxiety was higher (Alyaprak, 2006, Aslan, 2005, Duman, 2008), and the boys’ anxiety was higher (Kapıkıran, 2002; Kayapınar, 2006; Sarason, 1981). In view of this information, in order to see the effect of the recreational activities, it was ensured that the intervention and control groups were similar in terms of the variable of gender so that it would not affect our results ($p=1.000$ $p>0.05$) (Table 1). Considering the information in the literature reviews that there are differences between primary school graduate parents and college graduate parents in terms of their attitudes towards their children and the anxiety experienced decreases reversely as the education level of the family increases (Gökçedağ, 2001; Gümüş, 1997; Kayapınar,

Table 1. Frequencies and Levene test results for the socio-demographic features of the intervention and control groups.

Variables	Groups	Intervention Group		Control Group		P value
		f	(%)	f	(%)	
Gender	Girl	22	(73,3)	22	(73,3)	1,00
	Boy	8	(26,7)	8	(26,7)	
Mother's Education Level	Illiterate	5	(16,7)	3	(10)	0.889
	Literate	3	(10)	5	(16,7)	
	Primary school graduate	17	(56,7)	13	(43,3)	
	Secondary school graduate	3	(10)	7	(23,3)	
	High school graduate	2	(6,7)	2	(6,7)	
	Illiterate	1	(3,3)	2	(6,7)	
	Literate	2	(6,7)	2	(6,7)	
Father's Education Level	Primary school graduate	18	(60)	13	(43,3)	0.174
	Secondary school graduate	6	(20)	8	(26,7)	
	High school graduate	14	(46,7)	14	(46,7)	
	Illiterate	1	(3,3)	2	(6,7)	
Family income status	Below 500 TRY	5	(16,7)	8	(26,7)	0.665
	500 -1000TRY	14	(46,7)	14	(46,7)	
	1000-1500TRY	8	(26,7)	3	(10)	
	1501TL and over	3	(10)	5	(16,7)	
	None	1	(3,3)	2	(6,7)	
Number of siblings	1 sibling	3	(10)	4	(13,3)	0.119
	2 siblings	6	(20)	9	(30)	
	3 siblings	9	(30)	3	(10)	
	4 siblings and over	11	(36,7)	12	(40)	

2006). It was ensured the intervention and control groups were similar in terms of the mother's education level ($p=0.467$, $p>0.05$) and the father's education level ($p=0.598$, $p>0.05$). In addition, based on the explanations that the children in low socio-economic level have higher anxiety (Alyaprak, 2006; Aral, 1997; Duman, 2008; Girgin, 1990; Kayapınar, 2006) and state and trait anger decreases as the income level increases depending on the increase in the sense of self-confidence (Gündoğar et al., 2007), the intervention and control groups were similar in terms of the income level ($p=0.598$, $p>0.05$) (Table 1).

As it is mentioned in some studies that the number of siblings is a factor which increases the level of anxiety (Toros and Tataroğlu, 2002), it was tried that the numbers of siblings of the children constituting the intervention and control groups were similar so as not to affect the results of the study, and as a result of the statistical analysis carried out, it was seen that this similarity was provided ($p=0.467$, $p>0.05$) (Table 1).

Our efforts to provide the similarity of the socio-demographic features which could affect the anxiety state of the control and intervention groups being successful

showed that the recreational activity program we implemented was effective in the elimination of the state and trait anxiety symptoms.

Considering the results for the state anxiety in Table 2, the difference between the pre-test scores of both groups being insignificant ($p=0.736$, $p>0.05$) when the scores of the intervention group (54.17 ± 8.120) and the scores of the control group (53.50 ± 7.109) were compared showed that the students included in the study had similar features in terms of the sense of anxiety at the beginning. To evaluate the effectiveness of the recreational activity program we implemented; the state anxiety pre-test scores of the intervention group (54.17 ± 8.120) gradually decreasing in the post-tests (32.80 ± 8.806) and this decrease in the scores being found significant in the analysis performed ($p=0.024$, $p<0.05$), the state anxiety pre-test scores of the control group (53.50 ± 7.109) decreasing in the post-tests (43.90 ± 10.145); however, the difference being found insignificant ($p=0.157$, $p>0.05$) and also the difference between the post-test mean scores being significant when the state anxiety post-tests of the intervention and control groups were compared ($p=.000$, $p<0.05$) showed that the recreational activity

Table 2. State-trait anxiety pre-test post-test values of the intervention and control groups.

Applied scales		Intervention Group Mean \pm SD	Control Group Mean \pm SD	t value	P value
State anxiety	Pre-test	54,17 \pm 8,120	53,50 \pm 7,109 43	.338	0,736
	Post- test	32,80 \pm 8,806	,90 \pm 10,145		
	t	10.612	4.311	-4.526	,000
	P Value	0,024	0,157		
Trait anxiety	Pre-test	52,97 \pm 7,421	54,60 \pm 5,456	-9.71	0,335
	Post- test	43,80 \pm 8,802	49,73 \pm 6,079	-3.038	0,004
	t	5.315	2.986		
	P Value	0,034	0,267		

Table 3. Number of the planned and implemented activities.

Name of the planned activity	No of the planned activity	No of the implemented activity	Name and No of the replaced activity in the implementation	Reason for the change in plan
Music study	2	2	-	-
Cinema	2	2	-	-
Rhythm training	2	2	-	-
Improvisation studies	2	2	-	-
Folk dances	2	2	-	-
Scouting	2	2	-	-
Educational games	2	2	-	-
Picnic	2	2	-	-
Orienteering	2	2	-	-
Creative drama	2	2	-	-
Basketball	2	1	Watching a basketball match	The students' desire to watch a basketball match
Football	2	2	-	-
Volleyball	2	2	-	-

program we implemented was effective for the state anxiety and contributed to the elimination of the anxiety, which is a subjective feeling of students for "the SBS Placement Test" considered important, considering the explanations that the state anxiety reflects the subjective feelings for the present situation and increases in times of intense stress (Table 2).

Interms of the trait anxiety scores, the pre-test scores of the intervention group (52.97 \pm 7.421) decreasing significantly in the post-tests (43.80 \pm 8.802) ($p=0.034$ $p<0.05$), there being a significant difference between the pre-test (54.60 \pm 5.456) and post-test scores (49.73 \pm 6.079) of the control group; however, this difference being found insignificant ($p=0.267$, $p>0.05$) and no significant difference being observed between the pre-test scores of the intervention and control groups ($p=0.335$, $p>0.05$) at the beginning of the study, whereas

there being a significant difference between the post-test scores ($p=0.004$, $p<0.05$) revealed that the recreational activity program we implemented was also effective in the elimination of the trait anxiety (Table 2).

These results showed that that the recreational activity program we implemented was effective in the elimination of both the state and trait anxiety.

Although a similar study examining the effect of recreational activities has not been encountered, it is seen that there are studies investigating exam anxiety, state and trait anxiety (Duman, 2008; Günay et al., 2008, Kozacioğlu, 2012) and reporting that socio-cultural and sports activities have an effect on self-esteem and social anxiety (Aktop and Erman, 2002; İçten et al., 2006; Karagün et al., 2010; Steptoe et al., 1989; Tekin et al., 2002; Togo et al., 2006). Studies show the importance of exercises, sports and participation in socio-cultural

activities in coping with anxiety (Bond et al., 2002; Gökçe, 2004; Karagün et al., 2010; Steptoe et al., 1989) as regular physical activities are supportive in positive orientation of feelings and behaviors and reduce the level of anxiety. Regular physical activities are stated to be supportive in positive orientation of feelings and behaviors and reduce the level of anxiety (Baltaş and Baltaş, 1990; Müftüoğlu, 2005). Especially, recreative activities performed in groups such as games, sports, drama, story telling, handcrafts and photography are stated to encourage regular participation as they will be found entertaining and increase interest (Rose, 1998).

When interpreted with the information that psychosocial support can be effective to cope with negative feelings such as anxiety and to increase self-esteem (Hampel et al., 2008), in-class student interaction in elementary education level has an effect on academic achievement, socialization and development (Johnson and Johnson, 1999), and the belief in being able to do something improves self-confidence in proportion to success (Biçer, 1998), it was concluded that the students gained the sense of “can do” and developed self-confidence when they performed the activities they liked and wanted, they relaxed with the activities they participated voluntarily, they received a kind of psychosocial support through the activities they participated in groups, their in-group interactions increased, their self-confidence was reinforced and they cognitively experienced a positive change in their negative thought patterns as they expressed themselves, their participation in the activities they were interested in and loved provided a kind of relaxation, and therefore their anxiety levels decreased.

In addition, when considered with the information that when the intervention programs are implemented at schools, their acceptance becomes easier both for the children and the families, doing sports reduces the general symptoms and anxiety index, the sense of game and cooperation rather than competition in particular support socialization (Çekin et al., 1996; Karagün et al., 2010) and most of the students do not do sports out of school (Taşmektepligil et al. 2006), it is seen how important it is to carry out recreational studies at schools in a systematic way.

Conclusion

In conclusion, no significant difference was observed in the pre-tests in terms of the control and intervention groups, whereas the anxiety level of the intervention group decreased in the post-tests. These results indicate that the implemented recreational activity program was effective in reducing the state-trait anxiety level of the students who would take the SBS Placement Test. Based on the results of this study, it is anticipated that mainstreaming recreational activities at schools and performing them together with psychological guidance

activities will be supportive for students to cope with exam anxiety and other ongoing anxieties. It is thought that it would be appropriate to include recreational activities in secondary school programs thinking that they would be supportive to cope with anxiety especially in the exam periods considered important by the society.

Conflict of Interests

The author(s) have not declared any conflict of interests.

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