

## Examination of Continuous Anger and Anger Expression Styles of Physical Education, Computer Sciences and Mathematics Teacher Candidates

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**Abstract:** This study aimed to determine whether there are differences in terms of sex and department among the continuous anger and anger expression styles of teacher candidates at Kahramanmaras Sutcu Imam University. The 278 students participated in the study from three departments of the University. The data obtained using the State Trait Anger scale in the study. As a result of the study there was no significant statistical difference found in terms of sex ( $p>0.05$ ) and there were significant statistical differences in continuous anger and anger control dimension between the departments ( $p<0.05$ ).

**Key words:** Anger, continuous anger, anger control, teacher candidates, students, dimension

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### INTRODUCTION

Anger which can be defined as a reaction of aggression shown against frustration being hurt and intimidation (Turkish Linguistic Society, 1988) is a negative emotion partly neglected when compared to depression and anxiety in psychology literature yet a frequent one called a forgotten emotion by Kassinove and Sukhodolsky (1995) and Diguseppe *et al.* (1994).

Spielberger *et al.* (1983) defines anger as a mood formed by emotions changing from a moderate short temper to intense rage and fury. Kassinove *et al.* (1997) on the other hand, divide anger into two categories as mood anger and continuous anger. While temporary statuses changing from moderate short temper to intense rage are called mood anger, permanent anger statuses where anger is more frequent are called continuous anger. According to Deffenbacher (1992) on the other hand, continuous anger is being inclined to intense and frequent anger which reflects the person's characteristic. It is quite important how the anger is expressed since, differences in expressing anger make the person open to more attack and criticism (Batigun, 2004). According to Starner and Peters (2004), the way of expressing anger is explained with sub-concepts such as anger-out, anger-in and anger control. Anger-out is an adaptive reaction shown to overcome the stress caused by anger where anger is shown by outer appearance and behaviour. Anger-in is an alternative coping mechanism adapted by

the person against the signal revealing anger. In this mechanism, the individual tries to control his anger reactions. According to Kassinove *et al.* (1997) on the other hand while anger control is reduction or active management of anger with explanations such as I can control my behaviours and I maintain my cold-bloodedness, it is explained by Kokdemir as anger control of gaining the skill to express anger in the right way and the main purpose of anger control is to gain the skill of expressing the emotion in way not to damage himself and others away from aggression and without violence.

Smith and Furlong (1998) assert that there is an important relation between anger and the violence seen in students and an important connection between the problematic behaviours at school and high level of anger, low academic success and non-acceptance among the fellow and psychosomatic complaints. Psychological characteristics such as being ill-tempered and angry are prominent among the risk factors forming mental problems in adolescents. Teachers have also been seen in written and visual media in the recent years with their tendency to show angry attitudes while they are teaching. Therefore, anger control becomes an important matter in teaching profession as well.

Therefore, it is important to determine if there are differences among the continuous anger levels and anger expression styles of the students of departments of physical education, sports teaching, computer and educational technologies teaching and primary school

mathematics teaching. Determination of the levels of anger of teacher candidates is also important in terms of the utilization of positive coping methods to be made later.

The students studying physical education and sports teaching (PE) department within the scope of the research are accepted to university through a special skills exam. Students who are studying in computer and educational technologies (CE) and Primary school Mathematics Teaching (PMT) departments, on the other hand are accepted to university through central student selection exam. The three groups within the scope of the research are then entitled to become physical education teacher, information technologies teachers and primary school mathematics teachers in state schools as a result of their score in Public Personnel Selection Examination (KPSS) after completing 8 academic sessions. PE (746), CE (1366) and PMT (1841) students were assigned as contracted and staffed in 2009 assignment period.

The purpose of this study was to determine if there is a difference in the continuous anger levels and anger expression styles of teacher candidates studying at physical education, computer and educational technologies department and primary school mathematics teaching department.

## MATERIALS AND METHODS

**Participants:** A total of 278 teacher candidates 133 of which are female and 145 of which are male from physical education and sports teaching ( $n = 126$ ; 45.2%), computer and information technologies teaching ( $n = 75$ ; 27%) primary school mathematics teaching ( $n = 77$ ; 27.7%) departments. The age distribution of the attendants is 18-27 which consist of teacher candidates with a majority of an age group of 19-24.

**Data collection:** A personal details form and a survey form containing Continuous the State-Trait Anger scale was used as the data collection tools. The surveys were applied to the students in the university classrooms and the students were requested to attend the research voluntarily. The students were informed about how to fill the survey by the researchers before applied the surveys. Participants responded the surveys approximately 15 min.

A personal details form was prepared by the researchers. This tool intends to collect information about the related individuals attending in the research in relation to the independent variables handled in the research.

**The State-Trait Anger scale:** The State-Trait Anger scale which was originally developed by Spielberger *et al.*

(1983) and adapted by Ozer (1994) into Turkish, it was used in the determination of the continuous anger and anger styles of the teacher candidates. The scale used in adolescents and adults in order to determine their anger and anger styles consists of a total of 34 articles and 4 sub-dimensions. The sub-dimensions of the scale are known as continuous anger (10 items), anger-in (8 items), anger-out (8 items) and anger control (8 items).

The sub-dimensions of the State Trait Anger scale used in this research, continuous anger expresses how high the anger level is anger-in suppressed anger, anger-out easy expression of anger and anger control expresses in what level anger is controlled. Cronbach alpha inner consistency co-efficient for the sub-dimension of the State Trait Anger scale was found to be 0.79 and 0.65 for anger-in, 0.7 for anger-out and 0.82 for the sub-dimension of anger control. When Cronbach alpha inner consistency co-efficient mentioned by Nunnally (1978) is taken as the lowest 0.7, the scale reliability was accepted to be sufficient.

**Data analysis:** The data were analyzed by using SPSS 15 program. After determining means and frequency distributions of the data, independent samples t-test was applied to determine whether there is a difference between in the students' responses in terms of sex. The difference between the departments of the students and continuous anger. Anger control levels was compared through one-way Anova variance analysis. Tukey HSD test from Posthoc tests was used for detailed analysis as a result of the variance analysis. Alpha 0.05 level was accepted for the statistical comparisons.

## RESULTS AND DISCUSSION

Whether the scores of the teacher candidates attending the research taken from Continuous Anger and Anger Expression Style scale showed a variance in terms of their sex was compared through independent samples t-test. Since, no statistically meaningful variance was determined in the sub-dimensions of continuous anger, anger-in and anger-out in the comparisons, subsequent statistical comparisons were made without differentiating between the sexes. There was a variance determined in the sub-dimension of anger control and variances in the departments were also compared in subsequent analyses and according to sex (Table 1 and 2).

When continuous anger scores of the teacher candidates attending the research according to their departments were compared through One-way Anova

**Table 1: Means and standard deviations of the scores taken from the State Trait Anger scale according to departments**

Anger scale	Physical education and sports		Computer teaching and technologies		Primary school mathematics		Total	
	M	SD	M	SD	M	SD	M	SD
Continuous anger	20.92	5.284	21.89	4.83	23.39	4.99	21.87	5.17
Anger-in	15.97	3.640	16.62	3.80	16.58	3.38	16.32	3.62
Anger-out	15.32	3.630	15.12	3.47	16.05	3.21	15.47	3.48
Anger control	20.55	3.910	19.05	3.80	18.50	3.72	19.57	3.93

**Table 2: The t-test results of the scores taken from the State Trait Anger scale according to sex**

Anger scale	Sex	N	Mean	SD	t	df	p
Continuous anger	Male	145	21.66	5.27	-0.701	276	0.480
	Female	133	22.09	5.06			
Anger-in	Male	145	16.57	3.69	1.248	276	0.210
	Female	133	16.03	3.53			
Anger-out	Male	145	15.55	3.44	0.436	276	0.660
	Female	133	15.37	3.54			
Anger control	Male	145	20.17	3.90	2.650	276	0.008
	Female	133	18.93	3.87			

**Table 3: One-way Anova test results of continuous anger scores according to departments**

Anger scale	Categories	Sum of squares	df	Mean square	F	p
Continuous anger	Between group	289.52	2	144.76	5.59	0.004
	Within group	7121.81	275	25.89	-	-
	Total	7411.33	277	-	-	-

**Table 4: One-way Anova test results of anger control scores according to departments**

Anger scale	Categories	Sum of squares	df	Mean square	F	p
Anger control	Between group	231.61	2	115.87	7.87	0.00
	Within group	4046.14	275	14.71	-	-
	Total	4277.75	277	-	-	-

**Table 5: One-way Anova test results of anger-in scores according to departments**

Anger scale	Categories	Sum of squares	df	Mean square	F	p
Anger-in	Between group	27.33	2	13.66	1.043	0.35
	Within group	3603.17	275	13.12	-	-
	Total	3630.57	277	-	-	-

**Table 6: One-way anova test results of anger-out scores according to departments**

Anger scale	Categories	Sum of squares	df	Mean square	F	p
Anger-out	Between group	37.9	2	18.949	1.56	0.21
	Within group	3331.37	275	12.114	-	-
	Total	3369.27	277	-	-	-

test, a statistically meaningful variance was determined ( $F(275) = 5.59, p = 0.004$ ). Thus, when the varying department is examined through Tukey HSD posthoc test, it was determined that teacher candidates of physical education department had less scores than teacher candidates of primary school teaching department ( $M = -2.5$  points) and the variance between them was determined to be meaningful (Table 3).

A statistically significant variance was determined when anger control scores according to the departments of the teacher candidates attending the research was compared through One-way Anova test ( $F(275) = 7.87, p = 0.001$ ). Thus, when the varying department is examined through Tukey HSD posthoc test, it was determined that teacher candidates of physical education had higher scores than both teacher candidates in CE

department ( $M = -2.06$  points) and teacher candidates of primary school mathematics teaching and the variance between them was determined to be significant (Table 4).

A statistically significant variance was determined when anger-in scores of the teacher candidates attending the research was compared through One-way Anova test ( $F(275) = 1.03, p = 0.35$ ; Table 5). A statistically significant variance was determined when anger-out scores of the teacher candidates attending the research according to teacher candidates were compared through One-way Anova Test ( $F(275) = 1.56, p = 0.21$ ; Table 6).

A statistically significant variance was determined when anger control scores of the female teacher candidates attending the research according to their departments were compared through One-way Anova test ( $F(130) = 5.85, p = 0.004$ ; Table 7). Thus, when the varying

Table 7: One-way Anova test results of anger control scores of the female teacher candidates according to department

Anger scale	Categories	Sum of squares	df	Mean square	F	p
Anger control	Between group	163.53	2	81.76	5.85	0.004
	Within group	1816.86	130	13.97	-	-
	Total	1980.39	132	-	-	-

Table 8: One-way Anova test results of anger control scores of the male teacher candidates according to their departments

Anger scale	Categories	Sum of squares	df	Mean square	F	p
Anger control	Between group	63.44	2	31.72	2.11	0.12
	Within group	2127.24	142	14.98	-	-
	Total	2190.69	144	-	-	-

department is examined through Tukey HSD posthoc test, it was determined that teacher candidates of physical education had higher scores than both teacher candidates from CE ( $\bar{x} = 2.2$  points) and PMT ( $\bar{x} = 2.27$  points) departments and the variance between them are determined to be significant (Table 7).

No statistically significant variance was determined when anger control scores of the male teacher candidates attending the research according to their departments were compared through One-Way Anova test (Table 8).

Whether continuous anger levels and anger expression styles of the teacher candidates studying at physical education and sports teaching department, computer and educational technologies department and primary school mathematics teaching department showed variance in terms of their sexes and departments.

Thus, personal details form and the survey containing Continuous Style scale were applied to a total of 278 teacher candidates 133 of which is female and 145 of which is male from physical education and sports teaching department, computer and educational technologies department and primary school mathematics teaching department. Findings obtained as a result of the research were statistically evaluated and suggestions were made in line with the results.

In the study where continuous anger and anger expression styles of the teacher candidates were determined and the difference between those were examined, no significant variance was found in either continuous anger level or anger expression sub-dimensions. No variance was found in continuous anger and anger expression style in terms of sex in the study made on university students by Bilge (1997). In a study done by Campano and Munakata (2004) no significant variance was determined in both continuous anger level and anger expression style dimension of university students although, men showed more violence containing behaviours in terms of sex.

In this research while no significant variance was found in continuous anger, interior exterior, anger-out dimension, a significant variance was determined when

anger control scores of female teacher candidates attending the research according to their departments (Table 7). Based on the inclination of male students to show violent containing behaviours of male students while anger is expected to be higher in male students, it is interesting that there is no variance in terms of sex.

According to the findings obtained in the study, no significant variance was found in continuous anger, anger-in, anger-out dimension and these findings show similarity with the literature findings. Therefore, it can be said that anger is a humane emotion occurring without prejudice to sex. However, sex variance in anger control in this study and this variance is seen to be in favour of female physical education teachers.

While the highest average score in continuous anger dimension expressed as the status of inclination of the person to intense and frequent anger (Deffenbacher, 1992) is found in the students studying at primary school mathematics teaching department, the lowest average score, on the other hand was found in the students studying at physical education teaching. The variance between them was found significant (Table 3).

In anger control dimension which is defined as reducing or active control of anger. The teacher candidates of physical education were determined to have higher scores than the teacher candidates in both CE and PMT departments (Table 4).

Findings of this study can be evaluated from two aspects. Primarily, the scores of continuous anger sub-dimension being in the lowest level in students studying physical education teaching department yet anger control sub-dimension being the highest level and secondly, continuous anger scores of students at primary school teaching department being in the highest level anger control scores being the lowest level.

Average anger-in scores of the students of mathematics department was found to be higher than the average anger-in scores of other teacher candidates in a study made by Yondem and Bicak (2008). Continuous anger levels of the students were found to be higher than the continuous anger levels of the students from the other

departments in another study made by Micoogullari (2007). Therefore, the findings seem to be in parallel with the studies made both by Yondem and Bicak (2008) and by Micoogullari (2007).

The fact that continuous anger levels of mathematics teacher candidates in both the study and other studies have been high and anger control levels have been low seem to be an important finding. Thus, the continuance of this situation will cause mathematics teachers of the future show angry attitude while practicing their profession and it will affect the students' learning mathematics in a negative way. Then, mathematics teachers acting angrily and strictly may cause the students to resist against learning mathematics and it may prevent them from learning mathematics ([www.wikihow.com/Deal-With-an-Angry-Math-Teacher](http://www.wikihow.com/Deal-With-an-Angry-Math-Teacher)). Also uncontrolled anger is considered one of the factors connected to severe violence seen at schools (Dwyer *et al.*, 1998).

The level of anger being high in mathematics teacher candidates is considered to be connected to the challenges related to anger expression of the students as a numerical weighted department according to Yondem and Bicak (2008) while it is considered to be connected to the high course load and extreme abstractness of the topics they are studying at mathematics teaching department according to Micoogullari (2007). Although, anger in teacher candidates is connected to several reasons, formal and informal education on reducing anger levels and anger control is inevitable. Yondem and Bicak (2008) assert that educational processes improving affective skills may be useful besides field education and pedagogic education of the teacher candidates and that gaining skills such as solving stress, anxiety and conflicts and anger, fury management and communicational skills are important.

Yilmaz (2009) on the other hand, state that exercises improving emotional intelligence are effective in reducing continuous anger levels of university students. Additionally, Nugent *et al.* (1997) mention that there is a big reduction in anti-social behaviours in guilty adolescents who are taught anger control techniques in group environment and positive results were obtained. Deffenbacher *et al.* (1996) takes adolescents who go to school regularly to an education involving social skill improvement and conceptual knowledge teaching and as a result, there was a decrease in the inappropriate anger expressions of the students and an increase in anger control of the students.

## CONCLUSION

In this study, both continuous anger levels and anger control levels of physical education teacher candidates

were found to be high when compared to mathematics and computer teacher candidates and this can be connected to providing physical and mental discharge in teacher candidates because the department of physical education involves sportive, physical and mental activities due to its professional character.

## RECOMMENDATIONS

This study suggest that it will be useful to bring in meditation, physical exercise and artistic activities improving anger control which play an important role in the reduction of continuous anger of the teacher candidates in teaching education programs and extracurricular activities (Wittmann *et al.*, 2008).

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