



# The Beliefs, Attitudes and Views of University Students about Anger and the Effects of Cognitive Behavioral Therapy–Oriented Anger Control and Anxiety Management Programs on Their Anger Management Skill Levels

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## Abstract

This study was designed as a qualitative focus group using a randomized controlled trial with a mixed methodology. The study has dual aims. First we searched the beliefs, attitudes and views of 176 university students on how to deal with anger using eight focus discussion groups. The anxiety and anger levels of these students were investigated with the Beck Anxiety Inventory and State Trait Anger Scale, and these values were accepted as pretest scores for the participants. The 32 students with the highest scores were selected. These students were randomized into study ( $n = 16$  students) and control groups ( $n = 16$  students). The participants in the study group received a behavioral therapy-oriented anger management skills training program consisting of 11 sessions, 90 minutes per session. After the program was completed the Beck Anxiety Inventory and State Trait Anger Scale were re-administered to both participants in the study and control groups, giving the post-test results. The study group attended two enhancement sessions, three and six months after the termination of the program, and these tests were then reapplied to both groups of participants (1st follow-up and 2nd follow-up tests). The findings revealed that the anxiety levels of the participants in the study group had decreased while statistically their anger control levels were significantly improved ( $p < 0.001$ ) compared to their pretest results. This positive effect for the study group was confirmed by the 3rd and 6th month follow-up tests ( $p < 0.05$ ) when these results were compared to the 1st and 2nd follow-up tests. However, there were no significant changes in the pre, post, 1st follow-up and 2nd follow-up results of both categories for the participants in the control group ( $p < 0.05$ ). In the focus group discussions, the students revealed that although they don't like angry people they believe that it is better to express their anger on other people. They usually talk with a close friend in order to cope with anger as a relaxation method. They mostly get angry when they believe that they face a situation where they have been treated unjustly and unfairly. Our results indicate that our program not only improved the anger control and anxiety management skills of the participants for the short term, but that this effect continued beyond this.

## Keywords

Anxiety, Anger Control, Cognitive Behavior Therapy, Anger Management Training, University Students.

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Anxiety is described as a state of mood and emotion experienced in the form of tension and fear, and directing individuals towards reacting (Schully, 1989; Stanley & Beck, 2000). The danger perceived within normal anxiety is based upon reality. However, the perception of danger in pathological anxiety is not in accordance with reality (Beck, 1976). Expectation of disaster (the reason for which is not defined), general discomfort, quick temper, muscle stretching, impatience, having difficulty in condensing one's thoughts and sleep disorders are observed in general anxiety disorder (DSM-IV-TR, 2000; Öztürk, 2002). These symptoms are related to the physiological, cognitive and behavioristic components of anxiety (Albano & Kendall, 2002). Cognitive therapists believe that the content of thoughts and beliefs are full of catastrophic scenarios in general anxiety disorder (Leahy, 2004; Wells, 1997). According to Beck (1976), anxiety appears when a person finds out that he/she lacks sufficient capacity to cope with the dangers in the presence of threats. However, anger arises when a person thinks that his/her rights are being overridden. In other words, anger emanates from social relations threatening self-assertion (Weber, Weiding, Freyer & Gralher, 2004). In both moods, the individual behaves unreasonably when he/she perceives inner and outer stimulants by distorting them from a cognitive point of view (Deffenbacher & Stark, 1992). However, according to the Rational Emotive Behavior Therapy Approach, the intolerably illogical thoughts developing in social and emotional life trigger anger and anxiety (Harrington, 2006).

Anger is an emotional state arising from inner and outer factors and has a defined frequency and duration showing an atmosphere of limited tolerance. Anger comes into being as a secondary factor resulting from a negative experience (Gazda, 1995). Spielberger (1983) reports that the feeling of anger can be grouped into state anger and trait anger. When people become angry, they display behavior (acting with particular mannerisms) such as controlling the anger, expressing it, communicating, thinking before reacting, attacking people and objects, or keeping the anger inside them (Deffenbacher, Oetting, Lynch, & Morris, 1996). Bøddeker and Stemmler (2000) list the ways anger can be controlled as controlling and expressing anger, repressing it, or calming down. However, Davies (2000) indicates that anger is repressed in two ways, inner and outer. Schiraldi and Kerr (2002) assert that some effective skills in controlling anger are using humor, behaving flexibly and adopting a conciliatory attitude. Lane and Hobfoll (1992), think that individuals can be very

effective in controlling their anger when they acquire communication skills under anger control. Synder, Kymisses, and Kessler (1999) indicate that anger can be easily controlled by means of sharing feelings and thoughts. Deffenbacher and Stark (1992) state that cognitive reconstruction is necessary to control anger. Madow (1972) also indicates that gaining awareness of why an individual becomes angry is effective in controlling anger. Ellis (1997) reports that moving away for a while from the environment one is in and expressing anger appropriately are also effective in controlling anger.

Pulse rate, respiration, spasms and blood pressure increase during anger, accompanied by trembling in the hands and feet, rapid respiration, raised body temperature and a feeling of numbness (Hazaleus & Deffenbacher, 1986). In addition, high anger may lead to problems such as heart diseases, migraine, headache, hypertension, high anxiety or ulcers (Arsakay, 2001; Bitti, Gremingni, Bertolotti, & Zotti, 1995; Erkek, Özgür, & Gümüş, 2006). It has been determined that individuals with high anger levels are more likely to attempt suicide (Horehsh et al., 1997). It also has been reported that they are more inclined to drug addiction (De Moja & Spielberger, 1997; Eftekhari, Turner, & Larimer, 2004). Anger threatens an individual's relations in family life, work and in every other phase of social and common life (Martin & Watson, 1997). It causes insoluble problems to appear in relationships, and as a result, aggressive reactions then arise among individuals (Averill, 1983; Ellis, 1997). However, researchers have reported that the more an anxiety level increases, the more anger levels increase and anger control decreases (Harrington, 2006; Honk, Tuiten, Haan, Hout, & Stam, 2001; Montagne et al., 2006; Phillips, Siniscalchi, & McElroy, 2004; Weber et al., 2004). In light of these findings, the conclusion is that anxiety and anger support each other as sibling emotional states and also strengthen each other.

It is clear that the individuals who have difficulties in functionally coping with anger may face serious psychological and physiological health risks. In general it is accepted that there are two main strategies for coping with anger and anxiety: problem-focused and emotion-focused (Folkman, Lazarus, Gruen, & DeLongis 1996). Problem-focused strategies, which this study aimed to foster in the participants of our program, use planned and learned activities to alter situations which cause anger and anxiety. Emotion-focused strategies are largely passive and concentrate on diminishing negative emotions, avoiding contact with stressors,

and searching for psychological and social support. In these regards, it is clear that anxiety and anger must be managed efficiently and functionally using a skills training program for those individuals who require it. This study has dual aims. The studies about the beliefs, attitudes and views about anger and anxiety of university students in our country are very limited. This factor limits skills training programs as they mostly depend on this empirical data. In order to overcome this handicap and turn this issue into an advantage we decided to make this the last aspect of our designed skills training program after we performed several focus discussion groups on our study population. We aimed to learn the beliefs, attitudes and views of participants by asking several open-ended discussion questions. Our second aim was to investigate the effects of a cognitive, behavioral, therapy-oriented, anger and anxiety management-skills training program on the anger and anxiety coping levels of these university students. Our aim was to determine the effectiveness of a cognitive, behaviorist, therapy-oriented anger control training program on university students' anxiety and anger control levels. The hypotheses tested follow below:

1. There should be significant differences between The Beck Anxiety Inventory and Anger Control Sub-scale post-test scores of the study and control groups.
2. There should be a significant difference between The Beck Anxiety Inventory and Anger Control Sub-scale pretest and post-test scores of the study group.
3. The Beck Anxiety Inventory and Anger Control Sub-scale post-test scores of the study group should not differ from their three and six-month follow-up scores.
4. The Beck Anxiety Inventory and Anger Control Sub-scale post-test scores of the control group should not differ from their pretest results.

### Material and Method

The study is designed as a qualitative focus group and randomized controlled trial with a mixed methodology. The study has dual aims. The study was held in Ondokuz Mayıs University from March 1, 2011 to December 1, 2011. After it was announced that a program aiming to improve anger control and stress management skills would be held, 184 students were administered as volunteers. The criteria for inclusion in the study were one had

to be at least 18 years old, not be on any psycho-regulatory medication (antidepressant, anxiolytic or antipsychotic), not have any psychiatric illnesses (diagnosis based on DSM-IV TR earlier), full participation in the sessions, and to attend all program sessions during the six months. Eight focus discussion groups were held with these 176 participants. Eight students declined to participate in the focus groups. In these groups we searched the beliefs, attitudes and views of these students' in order to learn how they dealt with anger and anxiety. We applied the Beck Anxiety Inventory and State Trait Anger Scale to all participants ( $n = 176$ ) and the 32 students with the highest scores were selected (Scores: anxiety; min = 27, max = 46; Anger; min = 17, max = 23). These students were basically randomized into the study ( $n = 16$  students) and control groups ( $n = 16$  students). First, the male and female students who had the highest scores from both inventories were listed. At the top of these lists, the first female and male students were assigned to the study sub-group, the second students in both lists to the control sub-group, the third to the study sub-group, the fourth to the control sub-group and so on, until they were equally divided according to their gender. In order to confirm that there was no difference between the anger control and anxiety management skills, the mean scores for the Beck Anxiety Inventory and Anger Control Sub-scale of these two groups were compared with each other using the Independent Sample *t*-test. There was no significant difference between the Beck Anxiety Inventory ( $t = 0.301$ ;  $p = 0.766$ ) and Anger Control Sub-scale ( $t = 0.096$ ;  $p = 0.924$ ) pretest scores of the two groups. The results are presented in Table 1. The participants in the study group received a behavioral therapy-oriented anger-management skills training program consisting of eleven 90 minute sessions. After the program was finished the Beck Anxiety Inventory and State Trait Anger Scale were re-administered to both the participants in the study and control groups (Post test results). The study group attended two enhancement sessions, three and six months after the termination of the program, and these tests were then reapplied to both groups of participants (1<sup>st</sup> follow-up and 2<sup>nd</sup> follow-up tests).

### Focus Groups

All participants ( $n = 184$ ) were initially invited to participate in eight focus discussion groups on different days of the week. All sessions were completed in eight consecutive days between

1.4.2011 to 8.4.2011. The discussion groups consisted of a maximum of 20 students and were facilitated by the researchers. The groups were balanced as equally as possible in terms of gender. The physical conditions of the discussion site were arranged in a circular seating pattern where all participants and the facilitator could make eye contact. After informing the participants about the aim of the sessions, eight students refused to participate in the focus group discussions. The discussions of the eight focus groups involved 176 students and were recorded using an mp3 device after informing them and receiving their consent. The discussion sessions were limited to 90 minutes each. All groups received the same questions and every participant got at least one chance to answer each question. The questions were as follows:

- What do you think about anger and anxiety? Is it a natural feeling?
- What do you think about angry people?
- How do people understand when you are angry or have anxiety?
- When do you get angry and feel anxiety most?
- How do you feel relaxed? Do you have a particular way to relax?

From these recordings important data was analyzed. The highlighted answers and views are summarized. The unexpected beliefs, attitudes, views and answers were also noted.

### Instruments

**Beck Anxiety Inventory** was developed by Beck, Epstein, Brown, and Steer (1988, as cited in Savaşır & Şahin, 1997) and adapted into Turkish by Ulusoy, Şahin, and Erkmen (1996). There are 21 items in the scale, with values ranging between 0 and 63. A high score shows that an individual's anxiety level is high. In a reliability study with an inner consistency coefficient of 0.93, it was calculated that the total item point correlation coefficients were calculated to range from 0.45 to 0.72. The test/retest reliability coefficient was calculated at 0.57. In a study of criteria-related validity, the Automatic Thoughts Scale (ATS) and its correlation was determined to be 0.41; the Beck Hopelessness Scale, 0.34; the Beck Depression Inventory, 0.46; the State Anxiety Inventory, 0.45; and the Continuous Anxiety Inventory, 0.53. A structure validity study reported that the anxiety scale of the group was significantly different from diagnosis of the other groups (depression mixed and control groups). As a result of the factor analysis

which was performed, the scale consisted of two factors, subjective anxiety and somatic symptoms (as cited in Savaşır & Şahin, 1997).

**The State Trait Anger Scale** was developed by Spielberger (1983) and adapted into Turkish by Özer (1994). The scale consists of four sub-scales: Anger Control, Continuous Anger, Outer-Anger, and Inner-Anger. Each sub-scale is used and graded separately. There are eight items in the Anger Control Sub-Scale with scores ranging between 8 and 32 points. A high score from the Anger Control Sub-Scale shows that anger can be controlled, but lower scores show that anger is greater and there may be problems in controlling it. In a study of the reliability of the scale, a Cronbach alpha-value of 0.84 was determined for anger control, 0.79 for continuous anger, 0.78 for outer-anger and 0.62 for inner-anger. As for the sub-scales, Cronbach alpha-values were calculated between 0.82 and 0.90 for continuous anger, 0.85 for anger control, 0.76 for outer-anger, and 0.74 for inner-anger.

### Treatment

As the program was being developed, use was made of Cognitive Behavioral Therapy Theory. Accordingly, a number of sessions were added to the program in order to give individuals skills such as cognitive reconstruction, relaxation and proper breathing. Some sessions were also added to the program for developing individual social skills with the intention of developing such skills as expression of anger by using "I" language and reacting solely in order to maintain communication during anger and conflict. The researchers designed one session (Özmen, 2004, 2006) of the program in order to promote and restructure the thinking styles of the participants, benefiting from the "Choice Theory" as developed by Glasser (1998; 2000). In addition, use was also made of the following studies while the program was being developed (Akgül, 2000; Albano & Kendall, 2002; Bödder & Stemmler, 2000; Burns, Bird, Leach, & Higgins, 2003; Deffenbacher, 2004; Deffenbacher & Stark, 1992; Durham et al., 2004; Erickson, 2003; Erözkan, 2006; Feindler & Star, 2003; Gosh, Flannery-Schroeder, Mauro, & Compton, 2006; Hazaleus & Deffenbacher, 1986; Hermann & McWhirter, 2003; Ireland, 2004; Kopper, 1993; Lewis, 2002; McKay & Rogers, 2000; Schiraldi & Kerr, 2002; Selçuk & Güner, 2000; Snyder et al., 1999; Şahin, 2004; Tangney, Wagner, Fletcher, & Gramzow, 1992; Thomas, 2001; Weber et al., 2004; Wilde, 2002; Willner, Jones, Tams, & Green, 2002; Voltan-Acar, 2002).

Psychological counseling techniques were used on the groups in the program. Games and practice were included in the program with the aim of helping group members communicate with each other, develop confidence, and support emotional sharing. The sessions also included such measures as presenting structured information about skills, skills-related role-playing, and doing homework. At the beginning of every session starting with the second one, participants shared their experiences and feelings about the homework given in the preceding class. The skills aimed for development in the sessions are summarized below:

*1<sup>st</sup> Session:* After a warm-up “The Game of Meeting” (Voltan-Acar, 2001, 2002) had been played, members were introduced to one another. They were also told about the aim of the program, the duration and frequency of the sessions, the privacy contract applicable in the group, how the group would work, the rules to be obeyed in the group and the rules surrounding attendance. The session finished with “The Deadlock Game” (Altınay, 1999).

*2<sup>nd</sup> Session:* Sharing with the group the experiences and situations that had most angered members. Sharing experiences such as behaving unrestrainedly; physical attack; displaying subsequent regret for the damage that anger does to relations; taking alcohol, smoking, overeating or drug use in times of anger; facing legal problems as a result of anger; and role-playing. The group participated in the game “The Things That Make Me Angry” (Çetin, Bilbay, & Kaymak, 2001; Schilling, 1996).

*3<sup>rd</sup> Session:* Identifying clues to anger and its physical, emotional and behavioral symptoms, with the aims of controlling anxiety, relaxation training, and breathing properly, as well as the ability to use relaxation in daily life. The group participated in “The Anger Machine Game” (Altınay, 1999).

*4<sup>th</sup> Session:* The ability to perceive negative feelings once they arise and to identify the attribute of awareness. The group participated in the warm-up game “Acting a Feeling” (Schilling, 1996). Evaluating the states of being aware or not being aware of the basic feelings experienced in the face of negative events also occurred.

*5<sup>th</sup> Session:* To comprehend “Choice Theory” and learn the ability of using it with the aim of controlling anger. Taking responsibility for behavior displayed at the time of anger and giving examples from personal experience. A group forum took place at which Choice Theory was discussed.

*6<sup>th</sup> and 7<sup>th</sup> Sessions:* The ability to define a strategy related to managing feelings of anger, and the ability to implement that strategy. Identifying, exemplifying, practicing and role playing various strategies such as cognitive reconstruction, changing the environment and using humor, effective communication, shared feelings and perceptions of cognitive distortions. Relaxation repetition.

*8<sup>th</sup> Session:* Expressing anger and negative feelings using “I” language, practice, role-play and relaxation repetition.

*9<sup>th</sup> Session:* Using the ability to listen effectively by use of eye contact with the person one is angry with. Recognizing the results of poor listening. Practice, role-play and relaxation repetition.

*10<sup>th</sup> Session:* Giving examples of reactions intended to maintain communication during conflict and in times of anger; understanding other people’s feelings by developing empathy. Practice and role-play.

*11<sup>th</sup> Session:* In the final session, in-group feelings and experiences were shared, and an evaluation of the program was carried out with the members. The program came to an end with “The Building Ego Game” (Altınay, 1999) and relaxation exercises.

## Statistical Analyses

The Kolmogorov-Smirnov Test was used to determine the Anger Control Sub-scales of the control and study group scores. The Levene Test was used to test homogeneity (Ural & Kılıç, 2005). According to the analyses, the group scores presented a normal distribution ( $p > 0.05$ ) and their variances were homogeneous ( $p > 0.05$ ). We therefore used the Independent Samples *t*-test, Paired Samples *t*-test and One-Way ANOVA for Repeated Measures to analyze the data (Büyükoztürk, 2003).

## Results

### Qualitative Data

**The Focus Group Discussions:** Data collected from eight mp3 recordings of the focus groups was analyzed. The findings after each question are as follows:

**What do you think about anger and anxiety? Is it a natural feeling?** Most of the students believe that anger and anxiety are natural feelings that humans experience. While there was no consensus about whether it is useful for daily life or not, both genders

believe, however, that it is better to control anger and anxiety. Many of the participants had some experiences where they got very angry. They noticed that when they are angry they don't benefit from society and family. Gender is an important factor for beliefs and attitudes as male students believe that "a man must express his anger." Male students believe that aggressiveness is a part of anger, and verbal and physical violence can be justified if the situation is needed. Students believe that popular culture has an important effect on aggressiveness and anger. They stated that many movies and television series, by idolizing aggressiveness, anger and violence, justify it. Male students stated that on some occasions, anger and violence may be the only way to have justice. They also added that in movies, characters sometimes have every right to act this way. Female students, however, didn't agree with this statement. When asked, students gave many popular male character examples from movies that they believe reflect these statements. However, both sexes failed to find examples of female characters.

**What do you think about angry people?** Most of the participants view their parents and educators as generally very angry. They believe that it is very hard to communicate with angry people. They hope to work with people who are not angry in the future. Interestingly, they said that dealing with "automatic thoughts" is very hard. They believe that angry people are rather prejudiced. Both genders didn't want to communicate with angry people. Female students also believe that angry people are weak in character, however some male students didn't agree with this view. Students also believed that angry people are more prone to illness although they are not sure why. Some students used their relatives or parents for examples about this topic. For instance, when some of their parents or relatives couldn't control their blood pressure, stomachaches or headaches were triggered. Most of them believed that relaxed people should have better health compared with angry people.

**How do people understand when you are angry or have anxiety?** The students described their body language and posturing when they get angry or have anxiety. These reactions can be grouped as sarcasm (direct insults and cursing), cold anger (staying calm while waiting for an opportunity for revenge), hostility (refusing to make any communication), and lastly, aggression. However, the female students declared that when their anger was at low levels they could usually hide it with a "false smile". With both genders, most students said that a friend or

their parents told them that their voice becomes raised and they begin to speak more urgently and simply when they get angry. These words could be meaningless curses and insults. Female students prefer to express their anger more passively. They rarely perform aggressive physical violence on other people but instead break objects or shut doors very hard. Males, however, prefer mostly to express their mood by hitting table or other things with their fists. When anger was expressed toward a specific person, they prefer to stand up and make eye contact with fists clenched. They stated that the aim of their gaze was to express their anger. Aggression was expressed first by pushing an opponent back with their fingertips. Male students stated that they rarely need to use violence against their opponents if they are not alone. Violence starts when an opponent also expresses his anger with a bodily touch like pushing. It is interesting that except with family issues, both genders try to stay calm and not act aggressively towards the opposite gender. However, they do prefer that the other gender be aware of their anger using mimicry or other behavior. With anxiety, biting one's nails, shaky extremities, and sweaty hands are common.

**When do you get angry and feel anxiety the most?** The participants usually defined a specific trigger event for at least one occasion on which they got very angry. Mostly, they stated that they become very angry when they experience an unjust situation (wrongly accused, etc.) with their family or in school. They underlined some minor unrealistic expectations. They also stated that they express anger when they are feeling depressed, hurt (especially from a close friend in social surroundings), disappointed, frustrated or threatened. A few subjects stated that feeling isolated is a powerful trigger for them. For anxiety, the most common impetus seemed to be competition. It doesn't matter whether this competition is with someone else or themselves. Also, some students declared that they feel anxiety when they don't have proper social activities or a proper social life.

**How do you feel relaxed? Do you have a particular way to relax?** Most of the students prefer to cope with their anger or anxiety by talking about the situation with a respected and close friend who can keep secrets. Some students confessed that they speak with themselves after such a stressful event. While both genders prefer to go somewhere else (Shopping, parks etc.) after they are angry, male students also prefer to make exercise (football, fishing etc.), however.

Students also stated that getting out into the open air has a relaxing effect on them. Both genders believe that listening to soft music can make them more relaxed, but they also stated being able to have this option is not always available when it is needed. A small percentage of them read books or magazines to get relaxed. Going to a movie (comedy preferred) was stated as way to cope with anger or stress, however many of them prefer to surf the Internet. Some students said that practicing their religion makes them very relaxed. Another small percentage of students believe that humor is a solution but they are a little worried about expressing humor in this situation because it may be misunderstood. A handful of students read self-help books. Practically no student had ever heard of breathing exercises.

**Quantitative Data**

This section presents the findings and tables based on the statistical analyses in order to test the hypotheses.

**1<sup>st</sup> Hypothesis:** “There should be a significant difference between The Beck Anxiety Inventory and Anger Control Sub-scale post-test scores of the study and control groups.”

In order to test this hypothesis the Beck Anxiety Inventory and Anger Control Sub-scale post-test scores of the control and study groups were compared using the Independent Samples t-Test. The results are presented in Table 1. It can be seen that the post-test results of the study group are significantly better than those of the control group (Beck Anxiety Inventory  $t = 3.30, p = 0.003, p < .01$ ; Anger Control Sub-scale  $t = 9.04, p = 0.000, p < .001$ ). These results confirm the first hypothesis.

Table 1  
The t-test Results of the Beck Anxiety Inventory and the Anger Control Sub-scale Pretest and Post-test Scores of the Study and Control Groups

	Groups	n	X	sd	df	t
Beck Anxiety Inventory	Pretest	Study	16	36.81	5.92	.301
		Control	16	36.25	4.56	
	Post-test	Study	16	30.50	7.33	3.30*
		Control	16	37.37	3.93	
Anger Control Sub-scale	Pretest	Study	16	19.93	1.94	.096
		Control	16	20.00	1.71	
	Post-test	Study	16	27.18	1.79	9.04**
		Control	16	20.68	2.24	

\* $p < 0.01$ ; \*\* $p < 0.001$

**2<sup>nd</sup> Hypothesis:** “There should be a significant difference between The Beck Anxiety Inventory and Anger Control Sub-scale pretest and post-test scores of the study group.”

In order to test this hypothesis we compared the study group’s pretest and post-test scores of the Beck Anxiety Inventory and Anger Control Sub-scale using the Independent Samples t-test. This analysis is presented in Table 2. The study group’s post-test results are significantly better than their pretest results (Beck Anxiety Inventory  $t = 5.45, p < 0.001$ , Anger Control Sub-scale  $t = 13.33, p < 0.001$ ). These results confirm the second hypothesis.

Table 2  
The t-test results of the Beck Anxiety Inventory and Anger Control Sub-scale Pretest and Post-test Scores of the Study Group

Beck Anxiety Inventory	Study Group	n	X	sd	df	t
Post-test	16	30.50	7.33			
Anger Control Sub-scale	Study Group	n	X	sd	df	t
Post-test	16	27.18	1.79			

\* $p < 0.001$

**3<sup>rd</sup> Hypothesis:** “The Beck Anxiety Inventory and Anger Control Sub-scale post-test scores of the study group should not differ from their three and six-month follow-up scores.”

In order to test this hypothesis, pretest, post-test, 1<sup>st</sup> follow-up and 2<sup>nd</sup> follow-up scores of The Beck Anxiety Inventory and Anger Control Sub-scale of the study group were analyzed using Repeated Measures One-Way ANOVA. These analyses are presented in Tables 3 and 4. Table 3 indicates no significant difference between the post-test results and follow-up scores of the Beck Anxiety Inventory of the study group, although pretest results were significantly poorer than the post-test and follow-up tests ( $p < 0.001$ ) (Study Group-anxiety; pretest  $X = 36.81, Ss = 5.92$ ; post-test  $X = 30.50, Ss = 7.33$ ; 1<sup>st</sup> follow-up  $X = 29.93, Ss = 7.00$ ; 2<sup>nd</sup> follow-up  $X = 31.18, Ss = 5.98$ ;  $F = 21.13$ ). Table 4 indicates no significant difference between the post-test results and follow-up scores of the Anger Control Sub-scale of the study group, although pretest results were significantly poorer than the post-test and follow-up tests ( $p < 0.001$ ) (Study Group-anger control; pretest  $X = 19.93, Ss = 1.94$ ; study post-test  $X = 27.18, Ss = 1.79$ ; 1<sup>st</sup> follow-up  $X = 27.25, Ss = 2.32$ ; 2<sup>nd</sup> follow-up  $X = 27.18, Ss = 1.55$ ;  $F = 76.23$ ). These results indicate that the positive effect of the program continued into the long term.

**4<sup>th</sup> Hypothesis:** “The Beck Anxiety Inventory and Anger Control Sub-scale post-test scores of the control group should not differ from their pretest results.”

Table 3  
The Results of One-Way ANOVA for Repeated Measures test of Beck Anxiety Inventory Pretest, Post-test, 1st Follow-up and 2nd Follow-up Scores of the Study Group

Origin of the Variance	Sum of Squares	sd	Mean of the Squares	F	Diff./Result
Between Subjects	2261.98	15	150.79		
Measurement	484.22	3	161.47	21.13*	2-1, 3-1, 4-1 $p < .001$
Error	343.82	45	7.64		
Sum	3090.02	63			2-3, 2-4, 3-4 $p > .05$

\* $p < 0.001$ ; 1: Pretest; 2: Post-test; 3: 1<sup>st</sup> follow-up; 4: 2<sup>nd</sup> follow-up

Table 4  
The Results of One-Way ANOVA for Repeated Measures test of Anger Control Sub-scale Pretest, Post-test, 1<sup>st</sup> Follow-up and 2<sup>nd</sup> Follow-up Scores of the Study Group

Origin of the Variance	Sum of Squares	sd	Mean of the Squares	F	Diff./Result
Between Subjects	97.98	15	6.53		
Measurement	634.42	3	211.47	76.23*	2-1,3-1, 4-1 $p < .001$
Error	124.82	45	2.77		
Sum	857.22	63			2-3, 2-4, 3-4 $p > .05$

\* $p < 0.001$ ; 1: Pretest; 2: Post-test; 3: 1<sup>st</sup> follow-up; 4: 2<sup>nd</sup> follow-up

In order to test this hypothesis the control group's pretest and post-test scores of the Beck Anxiety Inventory and Anger Control Sub-scale scores were compared using the Independent Samples *t*-test. The results are presented in Table 5. There was statistically no significant difference between the two inventories (Beck Anxiety Inventory  $t = 1.03$ ;  $p = .316$ , Anger Control Sub-scale  $t = 1.69$ ,  $p = .111$ ). These results confirm that the anxiety and anger control levels of the participants in the control group remained the same.

Table 5  
The *t*-test Results of the Beck Anxiety Inventory and Anger Control Sub-scale Pretest and Post-test Scores of the Control Group

Control Group	n	Beck Anxiety Inventory $\bar{X}$	sd	df	t
Pretest	16	36.25	4.56	15	1.03
Post-test	16	37.37	3.93		
Control Group	n	Anger Control Sub-scale $\bar{X}$	sd	df	t
PreTest	16	20.00	1.71	15	1.69
Post-test	16	20.68	2.24		

### Discussion

One of the main results of this study is provided from the qualitative focus group discussions. Our focus group results showed that aggression (verbal or physical) is a problem in our sample. Aggression originating from anger is considered as a serious problem in this age group (Vigil-Colet, Morales-Vives, & Tous, 2008). Our results indicate that male students especially perceive aggression as a mutual act. However, we also

understand that students had very strong negative emotions towards people who have high levels of anger. This situation is in conflict with the students' first belief. They simply demand that other people tolerate their anger while they don't like being threatened in the same manner. It is very interesting that most of the students could define the way they look or behave when they are angry. They also emphasized in focus groups that how they are perceived in their social life (especially female students) is very important. Sharing their anger or anxiety with their friends was the most common way to cope with anger and anxiety. However, students were mostly unaware of important strategies like humor or other relaxation techniques for functionally coping with anger and anxiety. These results helped us to shape the final form of the cognitive behavioral therapy-oriented anger management program. We intensified the coping-strategies training according to these results.

This study also analyzed the effect of the Cognitive Behavioral Therapy-oriented anger management training on university students in terms of anxiety and anger control. This analysis was developed according to the empirical data and experiences from the focus group. In the program, The Game of Meeting (Voltan-Acar, 2001, 2002) and The Deadlock Game (Altınay, 1999) game were played during the first session. In the second session, the situations in which the members became most angry and felt most anxious were shared, and the game "The Things That Make Me Angry" was played (Çetin et al., 2001; Schilling, 1996). This game was effective in enabling members to relax and share their feelings with other members. In the third session, the game "The Anger Machine"



(Altınay, 1999) was played and participants were then given instruction in relaxing and breathing correctly. The aim in the third session was to raise members' awareness of those events in which they experienced negative feelings. In this session, we allowed them to play the game "Act a Feeling" (Schilling, 1996). In the fifth session, the "Choice Theory," developed by Glasser (1998; 2000), was introduced and a group discussion was held. In the sixth and seventh sessions, strategies related to managing the feeling of anger were introduced to members, and activities such as role-playing and exercises related to these strategies took place. Our aim in the program was to develop the group members' social skills using the Cognitive Behavioral Therapy Theory as a basis (Albano, & Kendall, 2002; Erözkan, 2006; Gosh et al., 2006; Weber et al., 2004). In the eighth, ninth and the tenth sessions, we introduced some measures designed to help individuals gain communication skills such as expressing anger using "I language", using effective listening skills towards the subject of one's anger, reacting in order to maintain communication during times of anger, and developing empathy. The practices summarized here are effective in reducing anxiety levels and helping individuals' anger control skills.

The findings from the research show that the Anger Control Training Program based on Cognitive Behavioral Therapy was effective in reducing students' anxiety levels and increasing their level of anger control. This positive situation was also maintained in the two observation studies carried out 3 and 6 months later in the experimental group. The research conducted showed that anger control training positively affected anger control skills (Akgül, 2000; Bilge, 1996; Böddeker & Stemmler, 2000; Burns et al., 2003; Deffenbacher & Stark, 1992; Erözkan, 2006; Hermann & McWhirter, 2003; Ireland, 2004; Lewis, 2002; McKay & Rogers, 2000; Özmen, 2004; Schiraldi & Kerr, 2002; Snyder, 1999; Şahin, 2004; Thomas, 2001; Willner et al., 2002; Yılmaz, 2004). The research findings given here overlap with the findings cited above.

It has been reported that there are significant correlations between high levels of ineffectively controlled anger, aggression and suicide (Berkowitz, 1990; Fine & Olson, 1997; Gray, Jackson, & McKinlay, 1991; McDougall, Venables, & Roger, 1991; Tangney et al., 1992). The results given here also support those findings. Other research has shown that relaxation, the teaching of proper breathing, cognitive reconstruction, psychological training, and communication skills training are effective in the treatment of anxiety disorders (Albano & Kendall,

2002; Bados, Balaguer, & Saldana, 2007; Barlov & Rapee, 1992; Connor & Davidson, 1998; DeRubeis & Crits-Christoph, 1998; Durham et al., 2004; Erickson, 2003; Hollon, Stevart, & Strunk, 2006; Marks, 1989; Mathews, 1990; Rodebaugh & Chambless, 2004; Roerig, 1999; Sungur, 1996; Watt, Stewart, Lefaiivre, & Uman, 2006; Weber et al., 2004; Westra, 2004; Westra & Dozois, 2006). Furer and Walker (2008) also reported that Cognitive Behavioral Therapy is effective in the treatment of death anxiety. Hughes (2002) also states that Cognitive Behavioral Therapy is effective in the treatment of social anxiety. Durham et al. (1994), reported that pharmacological treatment and psychotherapy should be administered together in severe anxiety disturbance. Saatçioğlu (2001) reported that antidepressants, benzodiazepines and beta-blockers have been used in limited numbers in pharmacological treatment. Cognitive Behavioral Therapy has also been reported as effective in lowering anxiety levels in children, adolescents and young people (Albano & Kendall, 2002; Cartwright-Hatton, Roberts, Chitsabesan, Fothergill, & Harrington, 2004; Gosh et al., 2006; Kendall, Suveg, & Kingery, 2006; Manassis, Avery, Butalia, & Mendlowitz, 2004; Nauta, Scholing, Emmelkamp, & Minderaa, 2001; Reid, Salmon, & Lovibond, 2006).

Different findings have been obtained in some studies. Rickels and Schweizer (1990) reported that Cognitive Behavioral Therapy was initially effective in the treatment of anxiety, but that the symptoms reappeared in monitoring studies. It also has been suggested that new research data showing the efficiency of Cognitive Behavioral Therapy is needed (Haby, Donnelly, Corry, & Vos, 2006; Ladouceur et al., 2000; Power, Jerrom, Simpson, & Mitchell, 1989). These researchers have reported that Cognitive Behavioral Therapy is less effective in the treatment of severe anxiety defects. There is a difference between the findings summarized here and those obtained in this research. This may be due to the fact that the skills we aimed to impart in the sessions were more limited. It may have also arisen from the fact that monitoring studies were not conducted in some programs, or only in the short term. It must be emphasized here that there is no exact similarity among the programs in these subjects. In conclusion, the findings from this research indicate that Cognitive Behavioral Therapy-Oriented Anger Control Training is effective in reducing anxiety levels and improving anger control skills. Parallel to the results obtained, we suggest that personal programs may be administered to university students whose anxiety levels are high and anger control skills are weak.

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