

## An Investigation into the State-Trait Anger Expression Level of Taekwondo Students Attending High School

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**ABSTRACT** The purpose of this study was to investigate the state-trait anger expression level of taekwondo players attending high school. Two hundred and sixty (260) taekwondo students and two hundred and eighty-five (285) non-sporting students, five hundred and forty-five (545) male students in total, volunteered to take part in the study. The results of the study showed that the mean scores of taekwondo students for trait anger, anger-in and anger-out were lower compared with those of non-sporting students while the mean scores for anger control were higher than those of non-sporting-students. Though there was no significant difference amongst them with respect to trait anger, anger-in and anger-out scores, the difference in the scores of anger control was statistically significant. Results of the study concluded that sports factors should be considered as an important tool in the processes of anger control, prevention and problem solving.

### INTRODUCTION

Adolescence is one of the most important phase in human development. This phase is a transition from childhood to adulthood, in which biological, psychological, mental and social development and maturation occurs. The proper involvement of individuals in the world of adults depends on how healthily this period is lived. Individuals face many problems in their daily life and make efforts to solve them (Quinn et al. 2014). While solving these problems, they exhibit different emotional and behavioural reactions and anger is one of these reactions. Anger is one of the basic emotions felt by almost everyone at times. At the same time, it can be suggested that it is one of the most interested and the least understood emotions (Berg et al. 2014; Kisac 1997). However, it is essential to know that this emotion can be kept under control during severe impulses in adolescence, together with anger-related behaviours (Konishi and Hymel 2014; Berkowitz 1990; Tafrate et al. 2002; Robins and Novaco 1999; Frazier and Vela 2014; Balkaya and Sahin 2003).

Owing to cultural reasons and negative effects of anger, people are sometimes afraid of getting angry and do not want to show their anger. However, suppression of anger is the process of directing it inwards. Experiencing anger in this way leads to self-harm (Siegman 1993). Suppressed anger is thought to be associated with many physical diseases such as hyperten-

sion, coronary artery problems and cancer (Spielberger et al. 1991; Smith and Furlong 1998; Edmond et al. 2014; Arsakay 2001; Bitti et al. 1995).

Kassinove and Tafrate (2002) asserted that anger is often a learned emotion. They believe that anger is an expression of the behaviour which is partly an inborn quality but mostly modelled from family, school or television. However, people learn from the social environment they live in about what and when they will get angry and the kind of behaviours they will exhibit (Dey et al. 2014; Naser et al. 2014; Sharma and Maqbool 2014; Speilberger et al. 1970; Balkaya and Sahin 2003).

It is believed that increase in the prevention of violence in a society is only possible by discovering the causes of the violence. Violence at schools has become a growing problem which has long attracted the attention of educators, parents, members of the society, law-makers and researchers (Carter et al. 2014; Ozer 1994).

Thus, this research was conducted to explore the expression level of the state trait anger of male taekwondo students attending high school in comparison to non-sporting ones.

### MATERIAL AND METHODS

#### Research Group

Five hundred and forty-five (545) male students of 9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup> and 12<sup>th</sup> grades - 260 taekwondo students and 285 non-sporting students - participated in the study.

### Data Collection Tools

The study used the State-Trait Anger Scale (STAS), which was developed by Spielberger et al. (1970) and validated and translated into Turkish by Ozer (1994). This scale was made up of four sub-scales which include; trait anger, anger-in, anger-out and anger control. Cronbach's alpha coefficient was computed to determine the internal validity and it was found .79 for trait anger, .84 for anger control, .78 for anger-out and .62 for anger-in (Lopez and Thurman 1986). The scale that was used to determine the levels and types of anger among adolescents and adults, was made up of 4 sub-scales and 34 items. These sub-scales are Trait Anger (10 items), Anger-in (8 items), Anger-out (8 items) and Anger control (8 items). The scale was designed as a 4-point Likert type self-assessment scale. This scale is calibrated from 1 to 4 where 1 means "does not describe at all", 2 means "describes somewhat", 3 means "describes well" and 4 means "describes completely", participants rate how well each statement describes them. High scores from trait anger means higher levels of anger and high scores from anger control shows higher levels of anger control. Likewise, high scores from anger-out shows that anger is expressed easily and high scores from anger-in means suppressed anger. t- test was to analyse the data and the significance level was  $p < 0.005$ . SPSS 19 package program was used to evaluate the data statistically.

### RESULTS AND DISCUSSION

The research into the state trait anger levels of high school taekwondo students and non-sporting students generated the results, which are presented in the following tables.

As seen in Table 1, t-test comparison for the trait anger levels indicated that mean scores of

taekwondo students and non-sporting students were 19.970 and 21.440, respectively. Although trait anger levels of non-sporting students were higher than those of taekwondo students, however no significant difference was observed between them ( $t = -1.225$ ;  $P = 0.222 > 0.05$ ). The present research was aiming to explore the expression level of the trait anger of male taekwondo students attending high school, the mean score of the expression level of trait anger was lower than that of non-sporting students though there was no statistically significant difference between them. This is an expected and agreeable result. According to a study on trait anger and anger types of adolescents based on in-family psychological patterns, adolescents who perceive support and interaction in a family environment where unity and solidarity is, feel less angry, express their anger in a healthier manner and do not suppress their anger, do not behave aggressively or angrily to others and they also manage to control their anger properly and most of all, they live a more balanced life (Olmus 2001).

Anger-in mean-score of taekwondo students was 15.680 and 16.090 for non-sporting students. Anger-in score of non-sporting students was higher when compared to that of taekwondo students; however, there was no statistically significant difference between them ( $t = 0.477$ ;  $P = 0.653 > 0.05$ ). Anger-in score for taekwondo students was lower in comparison to the score for non-sporting students. Nevertheless, the difference between them was not statistically significant. So, it can be said that non-sporting students have suppressed anger.

Anger-out mean-score of taekwondo students was 15.254 and it was 16.217 for non-sporting students. Although taekwondo students had a lower mean score for anger-out, yet there was no statistically significant difference between them ( $t = -1.627$ ;  $P = 0.138 > 0.05$ ). Although there was no statistically significant difference be-

**Table 1: The state trait anger levels of taekwondo students and non-sporting students**

Sub-scales	Students	n	Mean	SD	t	p
Trait of Anger	Taekwondo	260	19.97	5.43	-1.23	.22
	Non-sporting	285	21.44	6.01		
Anger-In	Taekwondo	260	15.68	3.62	.48	.65
	Non-sporting	285	16.09	3.98		
Anger-Out	Taekwondo	260	15.25	4.25	-1.63	.14
	Non-sporting	285	16.22	4.59		
Controlling of Anger	Taekwondo	260	21.72	4.35	-3.09	.00
	Non-sporting	285	18.25	5.25		

tween them, the mean score for anger-out calculated for the taekwondo students was lower than that of non-sporting students, indicating that non-sporting students manage to express their anger more easily when compared with taekwondo students.

Taekwondo students scored 21.720 for anger-control while non-sporting students scored 18.250. A statistically significant difference was found between the mean scores of taekwondo and non-sporting students ( $t=-3.094$ ;  $P=0.001 < 0.05$ ). Taekwondo students had a higher mean score for anger-control than non-sporting students. The difference between these two groups was statistically significant ( $t = -3.094$   $P=0.001 < 0.05$ ). Accordingly, it can be suggested that taekwondo students compared with non-sporting students have the ability to control their anger. This is one of the most important results obtained in the study.

Campano and Munakata (2004) regarded unmanageable anger as a factor which is considerably associated with the violence at school and the research they carried out on 650 Philippines secondary school students indicated that there was an important relationship between aggression and anger and that a high level of anger was evidently related to problematic behaviour and low academic success at school and psychosomatic complaints.

In continuation, it can be suggested that taekwondo students compared with non-sporting students have the ability to control their anger. As it is seen in Table 2, the mean score for trait anger level of taekwondo students of 15-16 age group was 20.922 and it was calculated as 22.154 for the 17-18 age group. Although the scores for anger level of the 17-18 age group was higher than that of the 15-16 age group, yet no statistically significant difference was found between them ( $t = -0.878$ ;  $P=0.422 > 0.05$ ). With

respect to age groups, anger level of the 17-18 age group students was higher than the level of students in the 15-16 age groups, yet the difference between them was not statistically significant. Many studies on university students showed that the arousal of anger due to embarrassment, offense and negative happenings is connected with the tendency of apportioning blame to others (Tangney et al. 1996).

The mean score for anger-in level of taekwondo students of the 15-16 age group and the 17-18 age group were 14.500 and 15.369 respectively. Compared to students of the 15-16 age group, taekwondo students of the 17-18 age group had a higher score for anger-in level, yet there was no statistically significant difference between them ( $t = -1.317$ ;  $P=0.323 > 0.05$ ). Thus, it could be suggested that students of the 17-18 age group have suppressed anger. Compared to the 15-16 age group, anger-in mean-score found for taekwondo students in the 17-18 age group was higher with no statistically significant difference between them. As a result, students of the 17-18 age group could be said to have suppressed anger.

Taekwondo students of the 15-16 age group scored 15.056 on average for anger-out while the mean score was 16.108 for the 17-18 age group. There was no statistically significant difference between them although the 17-18 age group had a higher mean score than the 15-16 age group ( $t = -1.325$ ;  $P=0.321 > 0.05$ ). As a result, it can be suggested that students in the 17-18 age group can express their anger more easily. Anger-out score for the 17-18 age group was found to be higher than that of the 15-16 age group taekwondo students. No statistically significant difference was detected between these two age groups. Thus, it can be suggested that students of the 17-18 age group can express their anger more easily.

**Table 2: State trait anger levels of taekwondo students by the age groups**

<i>Sub-scales</i>	<i>Taekwondo students</i>	<i>n</i>	<i>Mean</i>	<i>SD</i>	<i>t</i>	<i>p</i>
<i>Trait of Anger</i>	15-16 years	150	20.92	5.41	-.88	.42
	17-18 years	110	22.15	5.92		
<i>Anger-In</i>	15-16 years	150	14.50	3.53	-1.32	.32
	17-18 years	110	15.37	4.42		
<i>Anger-Out</i>	15-16 years	150	15.06	3.93	-1.33	.32
	17-18 years	110	16.11	4.10		
<i>Controlling of Anger</i>	15-16 years	150	20.54	4.93	3.01	.00
	17-18 years	110	17.24	4.57		

The mean score for anger control level of taekwondo students of the 15-16 age group was 20.537 and it was 17.239 for those in the 17-18 age group. The mean score for anger-control among students in the 15-16 age group was higher than that of the 17-18 age group. The difference between them was statistically different ( $t=3.012$ ;  $P=0.001<05$ ). Consequently, it seems that students of the 15-16 age group have the ability to control their anger when compared to those in the 17-18 age group. Mean score for anger control in the 15-16 age group was higher compared to the 17-18 age group and there was a statistically significant difference between the groups ( $t=3.012$   $P=0.001<05$ ). Therefore, it can be asserted that taekwondo students in the 15-16 age group can get their anger under control.

As summarised by Table 3, the mean score for trait anger level of non-sporting students in the 15-16 age group was found to be 21.008 and it was calculated as 22.428 for the 17-18 age group; no statistically significant difference was observed between them ( $t=-0.878$ ;  $P=0.422>05$ ). Trait anger score for students in the 15-16 age group was lower than that of the 17-18 age group students. No statistically significant difference was found between the groups. Non-sporting students of the 15-16 age group showed a low level of trait anger. To Kellner and Bry (1999), students who cannot control their anger are avoided by their friends as they display violent and antisocial behaviours.

The mean scores for anger-in level of taekwondo students of the 15-16 and the 17-18 age groups were 15.125 and 16.742 respectively. There was no statistically significant difference between them ( $t=-1.263$ ;  $P=0.125>05$ ). As a conclusion, it could be suggested that anger observed among students of the 17-18 age group was suppressed in comparison with those in the 15-16 age group. For the subscale of anger in, students in the 15-16 age group scored lower

than those in the 17-18 age group and the difference between them was not statistically significant. So, non-sporting students in the 17-18 age group appear to suppress their anger.

It was found that anger-out score for the 15-16 age group was 16.021 and 17.992 for the students in the 17-18 age group; no statistically significant difference was detected between them ( $t=-1.323$ ;  $P=0.192>05$ ). Therefore, the conclusion to be drawn here is that students in the 17-18 age group can express their anger more easily than the students in the other age group. Concerning anger-out, the mean score for non-sporting students in the 15-16 age group was lower than the score for the 17-18 age group students. No statistically significant difference was observed between the groups. Accordingly, it can be stated that it is easier for non-sporting students in the 17-18 age group to express their anger.

The mean score for anger control level of non-sporting students of the 15-16 age group was 21.957 but it was 18.427 for those in the 17-18 age group. The difference between them was statistically different ( $t=2.462$ ;  $P=0.011<05$ ). Consequently, it seems that students of the 15-16 age group can control their anger when compared to those in the 17-18 age group. The mean score for anger control among non-sporting students of the 15-16 age group was found to be higher than the mean score calculated for the 17-18 age group, with no statistically significant difference ( $t=2.462$   $P=0.011<05$ ). As a conclusion, students of the 15-16 age group can be said to be able to control their anger in comparison to those in the 17-18 age group. These results indicated that both taekwondo students and non-sporting students in the 15-16 age group can get their anger under control when compared to the students in the 17-18 age group. Another study on high school students reported that students between the ages of 15-18 years

**Table 3: State trait anger levels of non-sporting students by the age groups**

<i>Sub-scales</i>	<i>Age groups</i>	<i>n</i>	<i>Mean</i>	<i>SD</i>	<i>t</i>	<i>p</i>
<i>Trait of Anger</i>	15-16 years	152	21.01	5.93	-0.88	.42
	17-18 years	133	22.43	5.92		
<i>Anger-In</i>	15-16 years	152	15.13	3.15	-1.26	.13
	17-18 years	133	16.74	3.72		
<i>Anger-Out</i>	15-16 years	152	16.02	4.13	-1.32	.19
	17-18 years	133	17.99	4.22		
<i>Controlling of Anger</i>	15-16 years	152	21.96	4.99	2.46	.01
	17-18 years	133	18.43	5.14		

had difficulty in expressing their anger (Kilicaslan 2000).

In one of the latest studies on trait anger, Quinn et al. (2014) investigated state-trait theory of anger with adolescents and referred five hypotheses (intensity hypothesis, discrimination hypothesis, elicitation hypothesis, consequence hypothesis, negative expression hypothesis). This study showed that the data on all five hypotheses supported the notion that trait anger is firmly entrenched by the period of adolescence, with few developmental differences noted from the adult literature. May et al. (2014), remarked similar results in their study.

Brassard et al. (2014) examined the association between men's experience of childhood sexual abuse and later perpetration of intimate partner violence, considering the roles of attachment insecurity and poor anger regulation. Results of this study showed that men who experienced childhood sexual abuse scored higher on attachment anxiety, which in turn was associated with aggressive behaviours directly and through four anger-related variables (trait anger, anger-in, anger-out, and low anger control). Attachment-related avoidance predicted psychological aggression, but not physical aggression, through men's trait anger and anger-in. Edmond et al. (2014), Dunbar et al. (2014) and Carter et al. (2014) also specified similar findings in their studies.

Tschannen et al. (1992) in their study reported a close relationship between anger-in and depression among patients with complaints about headache. Biaggio and Godwin (1987) focus on the connection between depression and suppressed anger. Likewise, Bridewell and Chang (1997) suggested that internalized anger has a key role in predicting depression. The relationship between the cause and target of anger is the basis of Gestalt psychology. The cause of anger is related with environmental conditions and its target might be a person or an object (Harris 2001). It was seen in many studies that reactions underlying anger decreases based on age (Siegel 1986; Stoner and Spencer 1987). Scientific researches are being made towards combat sports. These researches should continue to increase their level of versatility (Kolayis and Sari 2011; Sterkowicz et al. 2012). Future studies might be conducted to clarify the relationship between courage, motivation for sport and general basic psychological needs in different sample (Sari et al. 2011).

## CONCLUSION

In fact, anger is a natural and human-specific emotion. Anger is not a type of behaviour although emotions and behaviours are sometimes used interchangeably. Trait anger could be bad for health, yet it can be neutralized before it rises. When anger is supposed to be expressed, it should be a solution-based one and should be done effectively.

## RECOMMENDATIONS

This study suggests that trait anger levels of high school taekwondo students are lower compared to non-sporting students and that they can manage to control their anger while non-sporting students have suppressed anger. Therefore, students should be canalized to sporting activities in order to benefit from socializing and other all positive aspects of sports before their anger changes into aggression. Anger as one of the most common emotions experienced during adolescence is associated with a wide variety of emotions. So, it is essential that anger is also studied within the scope of other related emotions in the processes of prevention and problem solving. It can be suggested that trait anger levels of taekwondo students are lower than that of non-sporting students yet they have the ability of controlling their anger while non-sporting students rather than taekwondo students have suppressed anger.

## REFERENCES

- Arsakay G 2001. *Hipertansiyon, ruhsal etkenler, ofke ve kontrolu, problem cozme yaklasimlari*. Master Thesis, Unpublished. Ankara University. Ankara.
- Balkaya F, Sahin NH 2003. Cok boyutlu ofke olcegi. *Turk Psikiyatri Dergisi*, 14: 192-202.
- Berkowitz L 1990. On the formation and regulation of anger and aggression: A cognitive-neoassociationistic analysis. *Am Psychol*, 45(4): 494-503.
- Biaggio MK, Godwin WH 1987. Relation of depression to anger and hostility constructs. *Psychol Rep*, 61: 87-90.
- Bitti PER, Gremigni P, Bertolotti G, Zotti AM 1995. Dimensions for anger and hostility in cardiac patients, hypertensive patients, and controls. *Psychother Psychosom*, 64: 162-172.
- Brassard A, Darveau V, Pélouquin K, Lussier Y, Shaver PR 2014. Childhood sexual abuse and intimate partner violence in a clinical sample of men: The mediating roles of adult attachment and anger management. *Journal of Aggression, Maltreatment and Trauma*, 23: 1-22. DOI:10.1080/10926771. 2014. 933464.

- Bridewell WB, Chang EC 1997. Distinguishing between anxiety, depression and hostility: Relations to anger-in, anger-out, and control. *J Pers Individ Dif*, 22: 587–590.
- Campano JP, Munakata T 2004. Anger and aggression among Filipino students. *Adolescence*, 39(156): 757–764.
- Carter SD, Crabtree NL, Epps J, Roberts-Davis AM 2014. Age of onset of physical abuse: Implications for adult anger and aggression. *Universal Journal of Psychology*, 2(4): 131–135.
- Dey BK, Rahman A, Bairagi A, Roy K 2014. Stress and anger of rural and urban adolescents. *Psychology*, Published Online March, 5, 177–184.
- Dunbar AS, Perry NB, Cavanaugh AM, Leerkes EM 2014. African American Parents' Racial and Emotion Socialization Profiles and Young Adults' Emotional Adaptation. Advance online publication. From <<http://dx.doi.org/10.1037/a0037546>>.
- Edmond MB, Granberg E, Simons R, Lei MK 2014. Distressing relationships, anger, and stress amplification in a sample of young adult african americans. *J Adult Dev*, 21(1): 13–29.
- Frazier SN, Vela J 2014. Dialectical behavior therapy for the treatment of anger and aggressive behavior: A review. *Aggress Violent Beh*, 19(2): 156–163.
- Harris JB 2001. *Working with Anger in Therapy-A Gestalt Approach*. 2<sup>nd</sup> Edition. Manchester: Manchester Gestalt Centre Public.
- Kassinove H, Tafrate RC 2002. *Anger Management: The Complete Treatment Guidebook for Practitioners*. California: Impact Publishers, Inc.
- Kellner MH, Bry BH 1999. The effects of anger management groups in a day school for emotionally disturbed adolescents. *Adolescence*, 34(136): 645–651.
- Kilicaslan I 2000. *Lise ogrencilerinin surekli ofke ve ofke ifade duzeylerinin bazi degiskenler acisindan incelenmesi*. Master Thesis, Unpublished. Sosyal Bilimler Enstitusu Egitim Bilimleri. Ondokuzmayis University. Samsun.
- Kisac I 1997. *Universite ogrencilerinin bazi degiskenlere gore surekli ofke ve ofke ifade duzeyleri*. PhD Thesis, Unpublished. Hacettepe University Sosyal Bilimler Enstitusu. Ankara.
- Kolayis H, Sari I 2011. Anxiety, self-esteem and competition ranking of judokas. *Arch Budo*, 7: 11–15.
- Konishi C, Hymel S 2014. An attachment perspective on anger among adolescents. *Merrill-Palmer Quarterly*, 60(1): 53–79.
- Lopez FG, Thurman CW 1986. A cognitive-behavioral investigation of anger among college students. *Cognitive Ther Res*, 10: 245–256.
- May RW, Sanchez-Gonzalez MA, Hawkins KA, Batchelor WB, Fincham FD 2014. Effect of anger and trait forgiveness on cardiovascular risk in young adult females. *The American Journal of Cardiology*, 114(1): 47–52.
- Naser A, Afshoon F, Mohammadi HR, Tavasoli E, Fard MR, Khalili A 2014. Comparing the dimensions of aggression in adolescent athletes and non-athletes divorced families. *European Journal of Experimental Biology*, 4(1): 452–455.
- Olmus GO 2001. *Ergenlerin aile ici psikolojik oruntulere gore surekli ofke ve ofke ifade tarzlarinin incelenmesi*. Egitim Bilimleri Enstitusu. Master Thesis, Unpublished. University of Marmara. Istanbul.
- Ozer AK 1994. Surekli ofke (SL-Ofke) ve ofke ifade tarzi (Ofke-Tarz) olcekleri on calismasi. *Turk Psikoloji Dergisi*, 9(31): 26–35.
- Quinn CA, Rollock D, Vrana SR 2014. A test of Spielberger's state-trait theory of anger with adolescents: Five hypotheses. *Emotion*, 14(1): 74.
- Robins S, Novaco RW 1999. Systems conceptualization and treatment of anger. *J Clin Psychol*, 55: 325–337.
- Sari I, Bayansalduz M, Eskiler E, Soyer F 2011. The Relationship Among Satisfaction of the Basic Psychological Needs, Life Satisfaction and Grade Point Average of University Students. *4<sup>th</sup> Annual International Conference: Physical Education, Sport And Health*, Pitesti, Romania, November 18-19, pp. 191-195.
- Sharma N, Maqbool M 2014. Relationship between body mass index and anger among graduate students. *Indian Journal of Health and Wellbeing*, 5(6): 723–725.
- Siegmán AW 1993. Cardiovascular consequences of expressing, experience and repressing anger. *J Behav Med*, 16: 539–569.
- Spielberger CD, Crane RS, Kearns WD 1991. 'Anger and anxiety in essential hypertension'. CD Spielberger (Ed.): *Stress and Emotion: Anxiety, Anger and Curiosity*. New York: Taylor & Francis, pp. 265–279.
- Tafrate RC, Kassinove H, Dundin L 2002. Anger episodes in high-and low-traitanger community adults. *J Clin Psychol*, 58(12): 1573–1590.
- Tangney JP, Wagner P, Hill-Barlow D, Marschall DE, Gramzow R 1996. Relation of shame and guilt to constructive versus destructive responses to anger across the lifespan. *J Pers Soc Psychol*, 70: 797–809.
- Tschannen TA, Duckrao PN, Margolis RB, Tomazic TJ 1992. The relationship of anger, depression and perceived disability among headache patients. *Headache*, 32: 501–503.
- Van den Berg C, Coetzee MH, Munro M 2014. Exploring the potential of the process drama convention of dramatised poetry to enhance anger-management skills in adolescent girls. *South African Theatre Journal*, (in press). Published online, 29 Nisan 2014. DOI: 10.1080 / 10137548.2014.910966