



## The Relationship Between Karate Trainers' Continuous Angry and Angry Expressions and Levels of Cognitive Flexibility

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### To cite this article/ Atf için:

Kara, M., Kara, N. Ş., Çetin, M. Ç. (2021). The relationship between karate trainers' continuous angry and angry expressions and levels of cognitive flexibility. *Uluslararası Bozok Spor Bilimleri Dergisi*, 2(3), 1-12.

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### Abstract

This study was conducted to determine the relationship between the trait anger and anger expression styles of karate trainers and their cognitive flexibility levels. The research was carried out using the relational screening model. The universe of the research consists of karate trainers affiliated to the Turkish Karate Federation, and the sample consists of 83 karate trainers, 18 women and 65 men, selected by scale sampling method, one of the purposeful sampling methods from this universe. Personal information form, Cognitive Flexibility Scale developed by Bilgin (2009), and Trait Anger Expression Styles scale adapted to Turkish by Özer (1994) were used as data collection tools. Descriptive statistics and Pearson correlation analyzes were applied to the data. As a result of the research, a positive and significant relationship was found between age and years of coaching and trait anger style. On the other hand, a significant negative correlation was found between age and years of coaching and cognitive flexibility. Finally, a negative significant relationship was found between anger styles scale, anger expression sub-dimension and cognitive flexibility scores.

**Keywords:** Anger, Cognitive Flexibility, Trainer, Karate

## INTRODUCTION

The spread of sport through the masses to different cultures, in particular the adoption and implementation of far eastern sports by large audiences, and the role of sport as instrumental in ensuring that negative emotions are emptied, makes clear the impact of sport on negative emotions such as angry and aggressive behaviour. In fact, negative emotions are at the root of anger, and the outpouring of these emotions can translate into aggression. In this context, individuals who participate in sporting activities have the opportunity to express their emotions through movements. This allows negative emotions such as anger, aggression, shyness, jealousy to be emptied and controlled (Kuru, 2003). Over time, understanding the

place of anger and aggression within sports has become a significant goal of sports scientists (Maxwell et al, 2009). People in different sports are thought to experience their anger at different levels (Maxwell et al, 2009). People in different sports are thought to experience their anger at different levels. In this context, anger and anger control can be said to be important for sporting success.

According to Lazarus (2000), anger is a violent urge to repair or revenge wounded self-esteem as a result of a humiliating act against the person and personality, while also expressing negative feelings. Anger is a form of expression of emotion. In another description, Biagio (1989) described anger as a powerful sentiment related to cognition that occurs in the face of real or existential obstruction, threat, or injustice, and which prompts one to eliminate uncomfortable stimuli. Spielberger et al. (1983) describes anger as a gradual emotional situation, ranging from a simple state of "irritability" or "resentment" to a state of intense "rage," Törestad (1990) states that anger is not a planned occurrence, but mostly occurs in situations such as obstruction, wrongdoing, criticism, condescension (Balkaya and Şahin, 2003).

Not making hasty decisions, as they are known, is an anger control. It is stated that when anger is controlled, it is a positive feeling that energizes people, that drives people, that people who can control their emotions and anger in everyday life are more successful (Kısaç, 2005). It can be stated that anger control is not to hide anger, contrary to what is supposed, but to know what dimensions of anger it is and take necessary precautions. The violence of anger takes on significance in relation to the sense of pleasure that the desired goal creates in the person. So it can be said that anger is expressed in different forms. Anger expressions; anger is introspection, anger outpouring and anger control (Bostancı et al., 2006; Özen, 1994; Sung et al., 2006; Tambag and Öz, 2005). According to Starner and Peters (2004) "anger outpouring; it is the outpouring of a sense of anger that occurs verbally or by pouring into behaviour, and is a concerted response in dealing with the stress caused by anger. Anger inhalation; an alternative adaptation mechanism that one uses against existing anger factors by concealing or keeping anger in them. Anger control, in other words, shows how much one controls or tends to calm one's anger in relationships with others, is the control experience that expresses anger through individual responses (Albayrak and Kutlu, 2009).

Although anger is a situation that occurs in almost every area of life, the source of anger is the situation in which we are present and our previous life experiences. Although anger is sometimes used in the same sense as aggression, in fact these two concepts have no obligation to always coexist. Indeed, the International Society for the Psychology of Sport has described aggression in sports (Tenenbaum et al, 1997) as "the sanction of one person with a deterrent warning against another by physical, verbal or gesture." Furthermore, Kerr (1999) proposed categorizing aggression in two ways as acceptable aggression and non-acceptable aggression. If we are to address the sport of karate at this point, it can be treated as acceptable aggression to rule out blocking an opponent so as not to score points against an opponent. The technique, applied in a non-gentlemanly manner after the referee's stoppage command in case the opponent scores, can be treated as unacceptable aggression. There can be talk of the existence of a serious relationship between anger and aggression as the inability to contain anger is a natural sensation but fuels aggression. In both team and individual sports, the relationship of

anger and aggression manifests itself. In the sense of the anger relationship with the team and individual sports, it can be said that anger control is more ensured in individual sports. This is because those engaged in team sports might consider the possibility of aggression to be easier. I mean, you could say that karate coaches need to provide their anger control to avoid non-acceptable aggression. Coach behaviour plays a key role in success, just like athletes. In a manner of speaking it is significant for coaches to know their athletes and their different behavior patterns and apply behavioral patterns accordingly. Last of all, the concept of cognitive flexibility becomes important. Cognitive flexibility can be express as the efficiency to change one's approach or way of thinking towards a task. When looking at the characteristics of people with high levels of cognitive flexibility, people with high cognitive flexibility can make easy and spontaneous changes, while people with low cognitive flexibility are challenged to make changes (Cox, 1980). Also in karate sport, where tactical battles take place after planned work and planned training, the concept of cognitive flexibility is important. Whence, it is important for success for karate coaches to act with respect to the notions of anger control and cognitive flexibility, both in the competition environment and in training situations. The high level of cognitive flexibility of both self-worth and low-self-worth karate coaches, providing anger control, is as important as athlete success.

At the point of anger control it can be said that coaches adjusting the severity of anger would give their athletes or team an advantage. Just at this point it can be said that the degree to which a coach provides anger control can also be shaped by the outcome of the consequences and sanctions of anger. Vaz and Clarke (1982) stated that athletes perform profit-loss accounts in determining their aggressive attitudes. It can also be said that it is extremely important at the point of success for coaches to think alternatively on complex roads, to account for profit losses, to provide anger control. In this context, the goal of this study is to examine the relationship between karate coaches, their continuous anger and anger expression styles, and their cognitive resilience levels.

## **MATERIALS AND METHODS**

### **Research Model**

This research, examining the relationship between karate coaches' constant anger and anger expression styles and their levels of cognitive flexibility, was designed using "Relational screening model. "The relational scanning model is a research model aimed at determining the existence and/or degree of interchangeability between two and more variables " (Karasar, 2018).

### **Research Group**

This research, examining the relationship between karate coaches' constant anger and anger expression styles and their levels of cognitive flexibility, was designed using "Relational screening model". "The relational scanning model is a research model aimed at determining the existence and/or degree of interchangeability between two and more variables." (Karasar, 2018).

## **Collection of Data**

Due to the epidemic of Covid-19 experienced, research data has been collected electronically. Before the data was collected, The Karate Federation of Turkey was contacted and requested permission, and the Karate Coaches received data in line with the permission. Data from the research was collected online via Google-Form from 10.04.2021 to 10.06.2021. At the beginning of the research form, the written directive was given on what the research subject was for, and for what purpose, and the voluntary participation form button was added to the form. Data was collected from coaches who read the written directive and agreed to voluntarily participate in the research.

## **Personal Information Form**

The personal fact sheet created to determine the demographics of karate coaches is aimed at achieving information such as coaches' age, gender, coaching tier, national coach status, year of coaching.

## **Trait Anger – Anger Expression Style Scale (TA-AESS)**

The State - Trait Anger Scale (STAS) which was originally developed by Spielberger et al in 1983 and the Trait Anger - Anger Style Scale (TA-ASS) which was adapted in Turkish by AK Özer in 1994 were used to determine the dependent variables of trait anger and anger styles in the study. The scale used to determine anger and anger styles in adolescents and adults consists of 34 items and 4 sub-dimensions. Sub-dimensions of the scale; Trait Anger (10 items), Anger Inside (8 items), Anger Out (8 items), and Anger control (8 items). Subscale items; Trait anger subscale (1,2,3,4,5,6,7,8,9,10), Anger internal subscale (13,15,16,20,23,26,27,31), Anger external subscale (12,17,19,22,24,29,32,33) and Anger control subscale (11,14,18,21,25,28,30,34). As a consequence, the cronbach alpha reliability coefficient of the measurement tool; trait anger was determined as .77, anger internally .62, anger externally .65, anger control .88.

## **Cognitive Flexibility Scale**

The "Cognitive Flexibility" scale was used to determine the cognitive flexibility levels of karate coaches. The measurement tool was developed by Bilgin (2009). The measurement tool consists of 19 item and adjective pairs (For example, "I can, I cannot", "I am successful, I am unsuccessful"). The scores obtained from the scale vary between 19 and 95. Higher scores from the scale indicate that the individual is closer to cognitive flexibility. In the reliability studies conducted on the scale, the Cronbach Alpha coefficient for the whole scale was found to be .92 (Bilgin, 2009). As a result of this research, the Cronbach Alpha reliability coefficient of the measurement tool was determined as .92.

## **Analysis of Data**

The data collected from the coaches via the Google form were transferred to the Excele file and then coded to the SPSS package program. Before the data were analyzed, normality test was applied to the data. In the normality analysis, it was determined that the skewness and kurtosis values of the data were in the range of  $-2 < \dots < +2$ . It was accepted that these obtained values were suitable for normal distribution (George and Mallery, 2001). Parametric tests were used because the data were in accordance with the normal distribution. Descriptive statistics, independent groups t-test and Pearson correlation analysis were used in the analysis

of the data. The significance level was taken as .05. The data were analyzed with the SPSS 25.0 package program.

## BULGULAR

**Table 1.** Distribution of the participants by gender

Gender	n	%
Female	18	21,7
Male	65	78,3
<b>Total</b>	<b>83</b>	<b>100,0</b>

According to Table 1, it was determined that, 21.7% (n=18) of the participants were female; 78.3% (n=65) of participants were male.

**Table 2.** Comparison results of participants' anger style scores by gender

	Gender	n	X	ss	t	p
<b>Constant Anger</b>	Female	18	16,94	4,04	,02	,98
	Male	65	16,92	3,90		
<b>Anger Inside</b>	Female	18	17,06	2,36	,82	,42
	Male	65	16,38	3,25		
<b>Anger Out</b>	Female	18	12,06	1,98	-,60	,55
	Male	65	12,48	2,80		
<b>Anger Control</b>	Female	18	24,22	4,11	,29	,77
	Male	65	23,86	4,73		

According to the independent groups t-test results in Table 2, it was determined that the anger style scores of the participants did not differ significantly by gender ( $p>.05$ ).

**Table 3.** Comparison results of participants' anger style scores according to their status as national coaches.

	National Coach Status	n	X	ss	t	p
<b>Constant Anger</b>	Yes	45	17,24	3,97	,80	,42
	No	38	16,55	3,85		
<b>Anger Inside</b>	Yes	45	16,96	3,09	1,38	,17
	No	38	16,03	3,03		
<b>Anger Out</b>	Yes	45	12,51	2,61	,47	,64
	No	38	12,24	2,70		
<b>Anger Control</b>	Yes	45	24,27	4,49	,71	,48
	No	38	23,55	4,71		

According to the independent groups t-test results in Table 3, it was determined that the anger style scores of the participants did not differ significantly according to their status as a national coach ( $p>.05$ ).

**Table 4.** Comparison results of participants' anger style scores according to their coach level status

	Coach level	n	X	ss	F	p
<b>Constant Anger</b>	1.Level Assistant Coach	27	16,00	3,94	2,24	,07
	2.Level Coach	26	16,38	3,15		
	3.Level Senior Coach	15	17,00	3,64		
	4.Level Head Coach	7	19,14	4,56		
	5.Level Technical Director	8	19,75	4,77		
<b>Anger Inside</b>	1.Level Assistant Coach	27	16,30	2,74	1,53	,20
	2.Level Coach	26	15,88	3,30		
	3.Level Senior Coach	15	18,07	2,89		
	4.Level Head Coach	7	15,71	3,55		
	5.Level Technical Director	8	17,25	2,92		
<b>Anger Out</b>	1.Level Assistant Coach	27	11,78	2,64	,79	,53
	2.Level Coach	26	12,46	2,52		
	3.Level Senior Coach	15	12,47	2,39		
	4.Level Head Coach	7	13,43	4,16		
	5.Level Technical Director	8	13,13	1,89		
<b>Anger Control</b>	1.Level Assistant Coach	27	23,96	4,86	,82	,52
	2.Level Coach	26	24,19	4,03		
	3.Level Senior Coach	15	24,93	4,98		
	4.Level Head Coach	7	23,71	5,71		
	5.Level Technical Director	8	21,38	3,54		

According to the results of the one-way analysis of variance in Table 4, it was determined that the anger style scores of the participants did not differ significantly according to their coach level ( $p>.05$ ).

**Table 5.** The results of the relationship between the anger style scores of the participants and their age

		Constant Anger	Anger Inside	Anger Out	Anger Control
<b>Age</b>	r	,23	,03	,18	,01
	p	,03*	,78	,11	,95

According to the results of the Pearson correlation analysis in Table 5, a positive and significant relationship was found between the trait anger scores of the participants and their age ( $p<.05$ ).

**Table 6.** The results of the relationship between the anger style scores of the participants and the years of coaching

		Constant Anger	Anger Inside	Anger Out	Anger Kontrol
<b>Coaching Year</b>	r	,24	,05	,19	-,08
	p	,03*	,65	,08	,49

According to the results of the Pearson correlation analysis in Table 6, a positive and significant relationship was found between the trait anger scores of the participants and their coaching years ( $p < .05$ ).

**Table 7.** Comparison results of participants' cognitive flexibility scores by gender

	Gender	n	X	ss	t	p
<b>Cognitive Flexibility</b>	Female	18	90,44	6,47	,45	,66
	Male	65	89,54	7,88		

According to the independent groups t-test results in Table 7, it was determined that cognitive flexibility scores did not differ significantly according to gender ( $p > .05$ ).

**Table 8.** Comparison results of participants' cognitive flexibility scores according to their status as national coaches

	National Coaches	n	X	ss	t	p
<b>Cognitive Flexibility</b>	Yes	45	89,04	8,91	-,90	,37
	No	38	90,55	5,60		

According to the independent groups t-test results in Table 8, it was determined that the cognitive flexibility scores of the participants did not differ significantly according to their status as a national coach ( $p > .05$ ).

**Table 9.** Comparison results of participants' cognitive flexibility scores according to their coach level status

	Coach level	n	X	ss	F	p
<b>Cognitive Flexibility</b>	1.Level Assistant Coach	27	91,26	5,96	,60	,66
	2.Level Coach	26	89,35	7,91		
	3.Level Senior Coach	15	88,60	10,24		
	4.Level Head Coach	7	90,57	5,91		
	5.Level Technical Director	8	87,25	7,52		

According to the results of the one-way analysis of variance in Table 9, it was determined that the cognitive flexibility scores of the participants did not differ significantly according to their coach level status ( $p > .05$ ).

**Table 10.** The results of the relationship between the cognitive flexibility of the participants and their age

Age	Cognitive Flexibility	
	r	-,28
p	,01**	

According to the results of the Pearson Correlation Analysis in Table 10, a significant negative correlation was found between the cognitive flexibility scores of the participants and their age ( $p < .05$ ).

**Table 11.** The results of the relationship between the cognitive flexibility scores of the participants and their coaching years

Coaching Year	Cognitive Flexibility	
	r	-,22
p	,04*	

According to the results of the Pearson correlation analysis in Table 11, a significant negative correlation was found between the cognitive flexibility scores of the participants and their years of coaching ( $p < .05$ ).

**Table 12.** The results of the relationship between the anger style scores of the participants and their cognitive flexibility scores

		Constant Anger	Anger Inside	Anger Out	Anger Control
Cognitive Flexibility	r	-,13	-,05	-,25	,15
	p	,25	,67	,02*	,17

According to the results of the Pearson correlation analysis in Table 12, a negative and low-level significant relationship was found between the anger-out scores of the participants and their cognitive flexibility scores ( $p < .05$ ).

## DISCUSSION AND CONCLUSION

This research has been prepared by considering Turkish Karate Coaches. The subject of the study, in the personal information form; gender, level of coaching, age, years of coaching, being a national coach or not. In this study, it was aimed to examine the relationship between trait anger and anger expression styles and cognitive flexibility levels of Turkish Karate Coaches.

In the comparison results of the participant karate coaches' anger expression styles scores, it was concluded that there was no significant difference according to gender. According to this



result, it can be said that gender is exhibited similarly in both men and women regardless of gender in terms of anger expression. It can be observed that anger expression styles are expressed similarly in similar situations. On the other hand, Güleser (2020) concluded that there is a significant difference in the mean of Trait Anger and Anger Expression Scale Trait Anger dimension scores in relation to gender. In addition, Hoşgör (2013) concluded that trait anger-anger expression styles were significantly different in terms of gender. Similar to the result obtained in the study, Kara (2020) stated that anger, which may arise as a result of mental health and biological factors in individuals, can occur in everyone, regardless of gender.

It was determined that the anger expression style scores of Turkish Karate Coaches did not differ significantly according to the status of being a National Coaches. As a result of the intense participation of the karate trainers in the organized competitions, whether they are national or not, and frequently encountering similar situations, it can be concluded that their anger expression styles do not differ. In parallel with the result, Aydınli (2020) looked at whether there was a difference in the problem-solving skills of karate trainers according to their active coaching status and did not find a significant difference. A positive and significant relationship was found between the trait anger sub-dimension of the coaches and the years of coaching. It was concluded that as the years of coaching increased, the trait anger score averages increased. According to the result, it can be said that as karate coaches' years of coaching and experience increase, their expectations from their athletes and their self-confidence increase. The idea that as a result of this, the expectation of losing will be less, can increase the dose of reaction and anger in the coach about the negative result.

A positive and significant relationship was found between the trait anger scores of the participants and their age. It can be said that as the age of the coaches increases, their coaching experience also increases. Parallel to this increasing experience, it can be interpreted that expectations have also increased. Under high expectations, as a result of a negative situation or an unexpected situation, he may show more anger than an inexperienced or younger coach. Unlike the result, Aydınli (2020) concluded that the difference between the ages of Karate trainers and their trainer-instructive behavior scores is not statistically significant.

It was determined that the cognitive flexibility scores of the participants did not differ significantly by gender. Regarding the result, regardless of gender, the society in which the individual grew up, the attitudes of his parents, the experiences he gained affect the cognitive flexibility of the individual and contribute to the shaping of the individual in this framework. Similarly, Kara et al. (2019) concluded that there was no significant difference in the cognitive flexibility levels of referees according to the gender variable. Similar to the result, Menteş (2019) concluded that there was no significant difference between gender and cognitive flexibility.

It was determined that the cognitive flexibility scores of Turkish Karate Trainers did not differ significantly according to their status as national trainers. Regarding the result obtained as a result of the fact that the average score does not show a significant difference in the case of being a national coach or not being a national coach, it can be said that there are constantly changing unstable conditions in the trainers in the karate branch. It can be said that the

geographical and physical conditions in which the competition is held sometimes affect the national or non-national coaches at different levels. Cognitive decisions are important when applying the decisions that need to be taken in situations where players need to make sudden decisions in situations related to external influences (Williams, 2009).

According to the results of the analysis, it was determined that the cognitive flexibility scores of the participants did not differ significantly according to the status of the coach level ( $p>.05$ ). When the literature review regarding the obtained result was made, no parallel or non-parallel studies were found. Looking at similar studies, Üzümcü and Müezzın (2018) concluded that the general cognitive flexibility level of teachers with 16-25 years of seniority and the alternatives sub-dimension of cognitive flexibility are higher than teachers with less seniority.

There was a significant negative correlation between the cognitive flexibility scores of the participants and their age. Altunkol (2011) found in his study that cognitive flexibility and happiness levels do not differ with age. Unlike the result, Başsu (2016) concluded that it does not make a significant difference in the interaction of cognitive flexibility and age.

A negative significant relationship was found between cognitive flexibility scores and years of coaching ( $p<.05$ ). Unlike the result, Akçakaya (2021) found that when the cognitive flexibility and empathic tendency scores of the coaches were examined according to their professional seniority, there was a significant difference between the control scores. Yılmaz et al. (2020), on the other hand, found a significant relationship between cognitive flexibility and professional seniority. Again, Gül (2015) found a significant relationship between years of experience and cognitive flexibility.

According to the results of the analysis, a negative and low-level significant relationship was found between the anger-out scores of the participants and their cognitive flexibility scores ( $p<.05$ ). As cognitive flexibility increases, individuals' ability to think about events from multiple perspectives can develop. Individuals who can think of events from multiple perspectives can realize the consequences that may arise when an action takes place. Therefore, individuals who are aware of the results may have lower anger-out behavior patterns.

## CONCLUSION

As a result of the research, a positive and significant relationship was found between age and years of coaching and trait anger style. On the other hand, a significant negative correlation was found between age and years of coaching and cognitive flexibility. Finally, a negative significant relationship was found between anger styles scale, anger expression sub-dimension and cognitive flexibility scores.

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