

# A SEMANTIC ANALYSIS OF THE CONCEPT OF ANGER AND ITS CONNOTATIONS (BASED ON FREE ASSOCIATIONS EXPERIMENT) IN THE TURKISH LANGUAGE

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**Abstract:** *In this study, we shall attempt to clarify the semantic levels used in ordinary Turkish when expressing the concept of anger. We assume that the concept of anger represents a multidimensional semantic complex that is saturated from numerous – often very diverse – dimensions of our perception and judgement. Mapping these fundamental semantic dimensions should thus enable us to map the semantic space in which the language user operates when they express anger. In this work we shall focus on the internal structure, the diversification of the most important semantic domains of the notion of anger and on an attempt to reveal some of the connections between the particular domains using a bottom – up approach.*

**Key words:** *semantic spaces, anger, connotations, social emotion, moral dimension*

## Introduction

Anger is one of the major emotions that have drawn our attention since time immemorial. In myths and religions, it is linked with the oldest and most important events of humankind (our expulsion from Paradise, murder, punishment) as well as with the idea of the establishment of (in)justice. Analyses of anger can be found as early as in the works of Plato or Aristotle (Rhet. 1378A31-33). Seneca (45) even wrote a whole book about it. This emotion has already been dealt with by many philosophers and theologians. They particularly focus on the negative impact it has on individuals and society (conflicts, crimes, wars). For Descartes, anger was derived from hatred which he listed as one of the six primitive passions. Anger as part of our reflections on the basic emotions can also be found in the works of McDougall (1926), Arnold (1960), Izard (1977), Plutchik (1980), Ekman, Friesen, & Ellsworth (1982), Tomkins (1984), Oatley & Johnson-Laird (1987). There are authors (James (1884), Watson (1919), Gray (1982), Pank-

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sepp (1982)) who also include emotions that are analogous to anger, such as rage, into this category.

The present study is not an attempt to contribute to the “hundred years’ war” over the existence (Lindquist et al., 2013; Barrett, Russell, 2015), number and nature (Ortony and Turner, 1990; Panksepp, 2007; Scarantino and Griffiths, 2011; Gu et al., 2016, 2018; Saarimaki et al., 2016; Hutto et al., 2018), models (Plutchik, 1962; Ekman and Friesen, 1969; Ekman, 2003; Izard, 2010, 2011; Ekman, Cordaro, 2011; Levenson, 2011; Panksepp and Watt, 2011; Tracy, Randles, 2011) or exact list of basic emotions. Neither is an assessment of anger and the search for strategies to bring it under the control of an individual or within society (Nussbaum 2016, Flanagan 2022) the focus of this work.

The paper shall concentrate on the mental contents (feelings, emotions, perceptions, impressions and ideas) that are linked to the expression of anger in the vocabulary of users of the natural language.

Like the other emotions – joy, sadness, desire, love, amazement etc. – anger is a complex and psychosomatic reaction that includes several, sometimes even highly distinct and contradictory, aspects. When we are angry, sometimes we are ready to attack, to freely express our feelings and direct our anger towards its source. In such cases, anger is linked to an attack. At other times anger results, and manifests itself, in an attempt to avoid any contact – we avoid any (even eye) contact, we do not talk to those who have made us angry and we avoid their company. In this respect, anger can undoubtedly be both a social and anti-social emotion (Démuth 2021). It can be directed “towards” but also “away”.

Another aspect is its activity. In several languages the etymology of the concept of anger refers to fire, flare-ups or burning (e.g., “anger” in Slovak comes from the Proto-Slavonic “*gnetiti*”, meaning to heat). When we feel angry, we are quick and fiery-tempered and even the smallest stimulus can make us explode. On the other hand, anger can frequently also make us absolutely cold towards those around us – positive stimuli (helpfulness, love and the admirable). It does not allow us to be affected by those positive values that could free us from our rejection and unfriendly mind-set.

Equally, differences can be seen in the intensity of the feelings. Ranging from a mild dislike to feelings of unease, avoidance, indignation then to intense feelings of rage, hatred or running amok, anger includes a whole variety of diverse states and feelings. Several of them occur so often and are so significant that they were denominated.

Webster’s Thesaurus lists the following synonyms of “anger”: rage, outrage, wrath, fury, madness, indignation and words derived from them such as aggravation, animosity, bile, contempt, grudge, flare, outburst, temper, delirium, heat. Other dictionaries, for example, the Merriam Webster Dictionary, the American Heritage Dictionary, the Oxford Advanced Learner’s Dictionary of Current English The Cambridge Dictionary, and Roget’s Thesaurus offer similar lists

plus resentment, fury, ire, irritation, dander up... The Corpus of Contemporary American English – COCA (Davies 2022) includes more than 36,500 occurrences of “anger”. They greatly vary in their meanings and contexts. The existence of such wide range of synonyms and related words as well as the broad variety of contexts in which the word occurs demonstrates that the spectrum of emotions and feelings that we experience when we are angry is much wider than the range of words we have to describe them. Thus, it is common that we are unable to find the words to fully express our feelings. And neither does a general reference to anger allow the recipient to fully comprehend what we want to say. Although Gärdenfors’s metaphorical expression that language is a meeting of minds holds true (Démuth, Gärdenfors 2013; Warglien, Gärdenfors 2013), the use of words that denote our emotions proves that it is a rough sketch map where two very finely structured realities meet, rather than a place in the physical sense.

Thus, in the present study, we would like to discuss the whole spectrum of emotions that are generally referred to as “anger” in the natural language. First and foremost, we shall attempt to map the semantic space covered by the term in the mind of an individual. In this sense we shall try to map the various emotions and feelings that are related to the concept of anger in the subjective experience of what an individual denotes as anger. We shall therefore try to map a whole group of diverse emotions and states as well as the essential semantic dimensions of the given concept as perceived by individuals.

The second aspect of the study will be a determination of the intersubjective congruence found in the use of individual concepts that denote these subjectively perceived emotions. A language can only be used for communication if there is sufficient overlap in the meanings of the concepts that are used by various language users. In other words, we shall examine the consistency and degree of congruence in the denomination of various emotions as “anger” by various users of the same language.

This leads us to the third dimension of the present study: we shall try to establish whether there are cultural differences in what we include in the concept of anger in various languages (in this study: especially in Turkish), or if the hypothesis about the universality and unification of this basic emotion is valid across multiple cultures and eras. Many linguistics and philosophers, following the example of Kant, have assumed that basic emotions, and the concepts used to denote them, will be structured in a similar way in multiple languages – thus they will be identical. On the other hand, some social constructivists or followers of the Sapir-Whorf linguistic relativity hypothesis of the perception of the world believe that concepts are constructs that are the consequence of cultural sedimentation and thus individual languages may structure the world differently. This might mean that the perception of individual emotions can, to a great extent, be conditioned by culture. This has been proven by the existence of some concepts in specific languages whose terms and respective interpretation cannot be found in other languages.

## The Goal of the Study

In this study we shall attempt to clarify the semantic levels within the concept of anger (“*öfke*”) in Turkish. We assume that the concept of anger (like beauty – cf. Démuth, Démuthová, Keceli 2022) represents a multidimensional semantic complex which is saturated from numerous – often very diverse – dimensions of our perception and judgement. Mapping these fundamental semantic dimensions will enable us to map the semantic space in which the language user operates when they express the concept of anger.

Therefore, in this work we shall focus on the internal structure, the diversification, of the most important semantic domains of the concept and on a revelation of some of the connections between those particular domains in Turkish. Turkish was chosen as it comes from a different language group (when compared to Slovak and English, as research into aesthetic concepts in these languages is already underway). This was also reflected in the composition and size of the sample, the methodology used and the logical approach of the research, so that the results acquired are mutually comparable and will allow, in addition to analyses of the structure of the semantic space of the concept in question, a comparison of the concepts and the universality or cultural conditioning of the concepts within different languages and cultures. Thus, the study is a (pilot) part of a larger project that examines the conceptual and qualitative domains of aesthetic and moral emotions in Slovak, English and Turkish.

## Participants

112 individuals took part in the study into the connotations of anger in Turkish. The average age of the participants was 24.49 (SD=4.238, Med=24, Mod=22, Max=45, Min=17). The group was composed of the following genders: 57 female participants (50.89%) and 55 male (49.11%). 49 (43.75%) were undergraduates and 63 (56.25%) were graduates. 24 (21.43%) of the participants were students of psychology and only 3 (2.68%) of them had completed their bachelor studies. 94 (83.93%) of the participants reported a religious affiliation, while 18 (16.07%) reported they had no religious affiliation. The participants were predominantly students of fourteen Turkish universities located in thirteen cities in five different geographical areas of Turkey (the Marmara Region (Istanbul, Bursa, Edirne, Kocaeli, Çanakkale), the Black Sea Region (Trabzon), the Aegean Region (İzmir, Afyon), the Mediterranean Region (Alanya, Burdur, Adana) and the Central Anatolia Region (Eskişehir, Kırşehir)). The mother tongue of all the participants was Turkish. As university students, they all spoke at least one other language, although their level of proficiency and the structure of the languages varied.

## Materials Used

The first part of task 1a) was the collection of free associations related to anger. We assumed that free association (without us specifying a topic in the

instructions) would provide valuable access to allow us to map the extent and structure of the semantic space of the concept in question and the conceptual relationships that might provide information about the meaning of the concept of anger (Kuehnast et al. 2014).

In 1b), the participants were asked to arrange the connotations by significance (from the most relevant to the least relevant).

Task 2) required the participants to provide a term with the opposite meaning to anger.

In the third task, which the participants were only allowed to complete once they had completed 1) and 2), they were asked to express, using a Likert scale, to what extent words (adjectives and substantives), that were provided as part of the instructions, saturated: a) the concept of anger; or b) the concept of love. The words that were used in this assessment were chosen as mutual opposites and represented the extremes of the continuum; the list was based on an earlier preliminary study. In contrast to a classical Osgood's semantic differential, this approach even allowed the participants to react to substantives, as they were found to occur in free associations almost as often as adjectives. Through a study of the semantic differential, we were able to focus on a more subtle map of the individual dimensions of the concept of anger and the measurement of their differences (Osgood et al 1957). The same approach was applied to the study of the semantic differential of the concept of love (which the participants judged as the opposite of anger). Subsequently, we compared the results from both differentials.

The data was obtained through an online questionnaire, using Google Forms, from July to October 2021. The questionnaire was presented online in Turkish.

## Methodology

The methodology used in this study followed that used in Fechner's experimental psychology and the work of the *Institute for Empirical Aesthetics* in Frankfurt with a bottom-up approach (Knop et al. 2016). We started with the collection and analysis of the meanings of the connotations linked with the concept of anger in the minds of the users of the natural language (with and without any formal education in psychology).

Once the free associations with the concept of anger were collected, as part of the first task, the individual connotations were adjusted. The lemmatisation of the connotations in question was chosen as a suitable method to allow the identification of the individual semantic dimensions. By removing prefixes and affixes and further modification of the word to bring it back to its root we acquired the tectogrammatical (semantic) lemma (e.g., fights, to fight = a fight). Although, as a consequence of this approach, the semantic differences that re-

sulted from prefixes were not taken into consideration (e.g., injustice vs justice), it helped us to focus on a common semantic level of rumination, represented by the lemma (e.g., law). T-lemmas acquired in this way then underwent frequency analysis and bivariate correlation analysis in SPSS (from IBM).

The subjective significance of individual associations was examined using a cognitive salience index and the order of the free associations that came from the first task; we assumed that it may correlate with their significance. The subjective significance of individual associations was also studied through a special task in which the participants were asked to arrange their free associations according to their subjective significance. This generated two types of cognitive salience index (spontaneous and reflective). We assumed that the reflective sorting would be more meaningful in terms of the significance of the associations than the order of the free associations.

A frequency analysis of the lemmas of individual tokens was used to assess the most frequently reported opposites of the concept of anger.

The top-down research approach was represented by a conceptual analysis of the concepts and a semantic differential of the concept of anger and its opposite (the concept of love). Using information from the preliminary study, we specified the opposing adjectives in advance. They represented a continuum of properties. The participants were asked to specify the degree to which a given dimension (adjective) links with the concept of anger (love) using a seven-point Likert scale. Subsequently, we evaluated the correlation between selected adjectives and the concept of anger and love through a frequency analysis and bivariate correlation analysis. The results for each of the concepts were compared in order to determine the degree of mutual opposition of the concepts.

## Results

### Task 1 - Free associations

In total, the participants listed 1,026 (SD 2.1, Average=9.2, Median=10, Min=1) free associations, of which, after the process of lemmatisation, 361 were classified as semantically distinct – unique.

The most frequently used connotations of the concept of anger were: fight (n=49 – used by 46 = 51,52% participants); nerve (n = 48 = 53.76% participants), violence (36 = 40.32%), control (26=29,12%), hate (22 = 24,64%), stress (19 = 21,28%), aggressive (16 = 17,92%), justice (14 = 15,68%), ignorance (14 = 15,68%), scream (13 = 14.56%), crisis (13 = 14.56%), regret (11 = 12,32%).

The bivariate correlation analysis did not show a statistically significant correlation between the individual connotations. It means that, despite the relatively high frequency of occurrence of some connotations, there is no significant link that would explain their co-occurrence within the associations of the concept of anger. Therefore, we applied a conceptual analysis to the mentioned connota-

tions. They can be classified into several groups according to: a) the potential sources of anger (politics, religion, father, injustice...), b) its (inward (stress...) or outward expression (scream, losing one's temper) or c) its consequences (fight, violence, damage, sorrow...). Associations that denoted a high level of activity (fight, scream, aggression...) formed a special category. It seems that this dimension is one of the major semantic levels of the concept of anger (more than half of the participants reported it). However, the occurrence of words that refer to control or loss of control and the spontaneous versus rational control of emotions was almost as high. Thus, anger is something which is a rather animalistic response and results from a loss of control or lack of rational thinking. The direction of the action in response to the source of anger – fight vs flight, an attempt to avoid a conflict through evasion or as a form of hatred, is yet another level.

To determine the significance of different semantic domains, we used the calculation of the cognitive salience index (CSI) of the most frequent connotations (Table 1). In the first case, we assume that the most important connotations come to mind first, while the less important ones come later in the association process. The cognitive conspicuousness index is based on the absolute frequency of the listed terms (= *f*) divided by the sum of the number of participants (= *N*) and the middle rank in the lists of terms (MLP):  $CSI = F / (N * MLP)$ . CSI ranges from 0 to 1, with higher values reflecting the higher importance of words in the conceptual field (Sutrop, 2001).

**Table 1.** Cognitive salience index for most frequented free associations

Rank	Connotation	Translation	f	rel f (f/n)	MLP	CSI
1	Sinir	Nerve	48	.428	2,73	.157
2	Kavga	Fight	49	.437	5,04	.087
3	şiddet	Violence	36	.321	5,17	.063
4	Nefret	Hate	22	.196	3,82	.051
5	Kontrol	Control	26	.232	5,08	.040
6	Stres	Stress	19	.169	4,00	.036
7	Saldırganlık	Aggression	16	.143	4,37	.033
8	Adalet	Justice	14	.125	5,50	.023
9	Kriz	Crisis	12	.107	5,17	.021
10	Çığlık	Scream	13	.116	5,85	.020
11	Pişmanlık	Regret	11	.098	5,18	.019
12	Cehalet	Ignorance	14	.125	6,43	.019

In the second case, we verified whether the spontaneous formation of associations really reflects the importance of the stated connotations. In this case, the respondents had to rank the connotations listed by them according to the im-

portance they considered from the most important ones – first, to the least concise ones). We calculated the CSI (Table 2) as in the previous task modification.

**Table 2.** Cognitive salience index for the most frequent connotations according to their importance

Rank	Connotation	Translation	f	rel f (f/n)	MLP	CSI
1	Sinir	Nerve	48	.428	3,52	.122
2	Kavgı	Fight	49	.437	4,94	.089
3	şiddet	Violence	36	.321	5,69	.056
4	Nefret	Hate	22	.196	3,68	.053
5	Kontrol	Control	26	.232	4,54	.051
6	Stres	Stress	19	.169	4,84	.035
7	Saldırganlık	Aggression	16	.143	4,38	.033
8	Pişmanlık	Regret	10	.098	3,80	.025
9	Cehalet	Ignorance	14	.125	5,14	.024
10	Adalet	Justice	14	.125	4,92	.023
11	Çığlık	Scream	13	.116	5,77	.020
12	Kriz	Crisis	12	.107	5,69	.019

### The opposite of the concept of anger

The most frequently used opposites included such concepts as calm (40), love (21), peace (9) tranquillity (6), respect (5), tolerance (5), patience (3), happiness (3) joy, bland, understanding, control (2), pleasure, acceptance, kindness, common sense, wisdom, comfort, satisfaction decency, serenity, humility, brotherhood, art (1).

### Task 2 – Semantic Differential

The semantic differential of the concept of anger (Table 3) showed that the participants viewed the absence of beauty (scored six on a seven-point scale), dirtiness (5.61), evil (5.94), passion (2.62), animality (5.54) and speed (2.52) to be its most characteristic features. On the other hand, adjectives such as just, social, motivational or avoidant were shown to be the least typical. The most characteristic adjectives also showed the highest degree of congruence between the participants, this was manifested in the low dispersion of values (passionate -1.44; ugly -1.55; evil -1.65; unpleasant -1.75; animal -1.86; irrational -2.10; fast -2.19 and male -2.28), while attributes such as motivational -4.79; strong -4.41 and visible -4.16 showed the lowest degree of inner congruence between the participants.

The bivariate (correlation) statistical analysis showed the existence of a medium strength link between the adjectives beautiful and pure (.636), pure and

rational (.616) and pure and moral (0.602), and a low strength link between the adjectives just and good (.595), moral and just (.566), beautiful and rational (.549), good and rational (.532), pure and just (.521) and beautiful and good (0.501). The lowest negative correlation was detected between the adjectives motivational and avoidant (-305) and pleasant and male (-305).

**Table 3.** The concept of anger semantic differential scale.

	1	2	3	4	5	6	7		VarP
Pleasant					5.72			Unpleasant	1.75
Just				4.99				Unjust	2.47
Beautiful						6		Ugly	1.55
Eternal					5.51			Volatile	3.38
Active			3.04					Passive	2.99
Pure					5.61			Dirty	2.38
Good					5.93			Evil	1.65
Moral					5.06			Immoral	2.42
Rational					5.26			Irrational	2.10
Simple					5.21			Complex	2.85
Social				4.85				Asocial	2.79
Passionate		2.62						Peaceful	1.44
Divine					5.54			Animal	1.86
Physical					5.31			Spiritual	2.54
Deep			3.75					Shallow	3.73
Strong			3.53					Weak	4.41
Motivational				4.67				Demotivational	4.79
Avoidant				4.40				Seeking	3.45
Fast		2.52						Slow	2.19
Visible			3.30					Hidden	4.16
Male			3.05					Female	2.28
									2.72285714285714

The semantic differential of the concept of love (Table 4), which was the second most frequently used opposite to the concept of anger, highlights the distinctive character of the attributes: beautiful (1.56), pleasant (1.71), good (1.78), just (1.95), pure (1.95) and strong (1.98). These concepts plus the adjectives: social,

divine, deep and motivational also showed the highest degree of congruence in the use of these adjectives in connection with the concept of love. On the other hand, the lowest degree of congruence was reported for the adjectives: simple (4.9) and passionate (5.04).

**Table 4.** The concept of love semantic differential scale.

	1	2	3	4	5	6	7	VarP
Pleasant	1.71							Unpleasant 1.77
Just	1.95							Unjust 1.43
Beautiful	1.56							Ugly 1.14
Eternal		2.54						Volatile 2.93
Active		2.19						Passive 2.07
Pure	1.95							Dirty 1.69
Good	1.78							Evil 1.35
Moral		2.11						Immoral 1.69
Rational		2.65						Irrational 2.62
Simple			3.82					Complex 4.90
Social		2.14						Asocial 1.68
Passionate				4.11				Peaceful 5.04
Divine		2.27						Animal 1.86
Physical				4.95				Spiritual 3.83
Deep		2.05						Shallow 1.67
Strong	1.98							Weak 1.53
Motivational		2.03						Demotivational 1.80
Avoidant				4.92				Seeking 3.01
Fast			3.92					Slow 3.23
Visible			3.23					Hidden 3.28
Male				4.99				Female 2.24
								2.41714285714286

## Discussion and limits of research

According to the Turkish National Corpus (a total of 49,664,176 words, TUD 2022) the most frequently used connotations of “anger” are: uncontrolled (9,467), pain (7,386), justice (4,484), fear (3,609), hate (2,843), male (2,618), rage (1,644), grudge (819), wrath (357) and violence (355). Although our empirical study provided us with similar connotations (violence, hate, justice, control), it also provided different ones: nerve (n=48 – used by 53.76% participants), fight (49-times by 46=51.52% participants), stress (19=21.28%), aggressive (16=17.92%), crisis (12=13.44%), scream (13=14.56%), ignorance (14=15.68%) and regret (11=12.32%). Differences between the relative representation of words in the corpus and in the study are due to the corpus listing the most numerous connotations of a word, which can be found in books, newspapers and other types of articles from various contexts. The participants of our study merely focused on the concept of anger and its most substantial characteristics. Thus they did not concentrate on the context in which “anger” is most frequently found (for instance, the most frequently found collocation of “cancer” might be “fight against cancer” or “overcoming”), they rather focused on the meaning of the word. This approach enables a deeper and more precise insight into the semantic space of the given concept for a given participant.

An analysis of the semantic domains showed that the crucial aspects are the sources of anger, the expressions of anger (inward and outward) and the consequences of anger. While the most frequently used collocation of “anger” in the corpus was the association with “control” – “uncontrolled” (9,467), which was mentioned by as many as 30.24% of the participants in our empirical study (control (n=26)), the most frequently used collocation of “anger” in our study was “nerve” (n=48 – used by 53.76% participants), which refers to uncontrolled anger. Control is, indeed, an important semantic level of our perception of and reflections related to anger. In our context, it means that anger is a state where we lose control of ourselves, our level of control is low. However, loss of control not only implies that we are overtaken and controlled by anger, it also means that anger is visible and manifested, that it can be perceived by an individual (who knows that they are angry and they are often angry that they are angry) and by those around them, we know that a person is angry, anger cannot be hidden. At the same time, the manifestation of anger is an important tool in communication – it signals something important even when we are trying to hide or suppress our anger, or control it, for tactical or cultural reasons.

Another level we detected in the study was indignation. What makes us angry is something that we reject and do not want. It is often accompanied by fear, resistance and avoidance. What makes us angry is something that is in conflict with our will. It is something that we do not want and reject. This is related to such concepts as violence (the advancement of something that contradicts one’s will – it can be the cause of anger as well as its consequence), but also hatred (distaste for the existence of an action, phenomenon or an object itself) and grudges

which document our indignation and lack of readiness to accept the source of our anger. Anger embodies our refusal of things we do not want and shows others our degree of non-acceptance. In this sense, anger is an indication of our disapproval and rejection.

The third major level of anger is activity. Anger not only shows our rejection of some phenomenon (the source of our anger), but concepts such as rage, grudge, wrath, fight, scream and aggression refer to an activity that is connected with the effort to remove the source of anger or divert its effect. Our resistance, escalating into anger, clearly demonstrates our willingness to invest energy into the removal of the source of anger, even to go as far as to fight, to attack, to violate and scream etc. In this sense, activity seems to be the most important sign of anger. the fight was the most widely used connotation 49x) the second most numerous group of participants 46), which refers to a high degree of activity. The importance of this semantic dimension was also confirmed by both Cognitive Salience Indexes, which drew attention to the importance of loss of control and activity experienced against the target, both in spontaneous associations and in a fully reflected order of importance. Anger does not merely signal that we reject something, but also that it is so unacceptable that we will not hesitate to expend energy and make an effort to remove the source of our anger.

According to Plutchik's theory (the wheel of emotions – Plutchik 1980)), fear is the opposite of anger. What they have in common is the rejection of the source of anger or fear and the investment of effort to remove it. However, while fear makes us focus our energy inwards and escape, in the case of anger, it is especially focused outwards, to a fight. Therefore, several philosophers view anger as a position whose main characteristic is to contradict (to attack, fight and to remove a source by force), or, on the contrary, to make efforts to completely avoid (hatred, absence of eye contact or communication) – alleviate the effects of a source of anger.

However, our study showed that “peace” was the opposite of “anger”, not “fear”. It seems that the perception of resistance and an activity aimed at the removal of a source of anger is often considered to be the main characteristic of being angry.

The structure of the dimensions of anger and love, as the second most frequently used opposite, were tested through a semantic differential. This showed that while anger is mainly characterised by negative adjectives (unpleasantness, ugliness, dirtiness, evil, but also passion, animality etc.), the following adjectives were typical of love: pleasantness, beauty, purity, the good... Both of these concepts also showed strong correlations between the adjectives beautiful and pure (.636), pure and rational (.616) and pure and moral (0.602), and a weak correlation between the adjectives just and good (.595), moral and just (.566), beautiful and rational (.549), good and rational (.532), pure and just (.521) and beautiful and good (0.501). Despite this, we cannot state that love is

the exact opposite of anger. The curves of the semantic differential of both of these concepts are not a mirror image and they, for example, differ in the dimension of activity, passion and justice. When compared to anger, love scored much higher in items such as: strength, depth, justice and sociability.

A special aspect of anger is sociability and morality. While the level of congruence found in the users of the natural language in connection with the correlation of love and morality and sociability was very high, anger did not score so high. At the same time, it is not so strictly viewed as immoral or anti-social. This results from the fact that although the epistemic function of anger is to signal resistance to certain phenomena or behaviour, on the other hand, by sending signals to the recipient, an angry individual tries to prevent or change their behaviour and prevent or terminate the negative anti-social and immoral phenomena (Démuth 2021). This is where the mistake lies in the concepts of Seneca, Flanagan or Nussbaum, which assume that it is necessary to eliminate anger in society. Our study highlights the ambivalence of this concept in a moral and social context. This rather corresponds with the ideas of Agnes Callard.

However, anger is, without a doubt, connected with justice or injustice as a source that invokes anger as well as with the desired consequence of our anger. Fight, scream, hatred – these forms of behaviour bring about apparent justice (punishment) and lead to the advancement of one's own version of justice and thus to the seizure of power.

Another interesting fact is that we only found a slight difference between the correlation of masculinity and anger and the correlation of masculinity and beauty in the Turkish subjects. Cultural patterns had encouraged us to assume that anger and its expressions would be more frequently connected to men than women, or in other words, anger would more often be expected and tolerated in men (which was only partially confirmed), and love would more often be connected with women (the goddess of love...), however, these assumptions were not confirmed.

The limits of the study not only include the size and structure of the sample, but also the on-line collection of data, which makes it impossible to assess the degree of spontaneity of the replies to individual questions. A future study might focus on a more subtle differentiation of anger from its individual forms (rage, amok, hatred, fury etc.), or on a semantic comparison with other emotions and feelings which represent opposites from other semantic domains (fear, peace, humbleness, joy...), and especially on a more detailed comparison of gender differences.

## **Conclusion**

Our semantic analysis of the concept of anger and its connotations proved that anger represents one of the basic concepts of emotionality. It is an umbrella term that includes a whole range of emotions and states and is satu-

rated by various semantic domains. The concepts that denote the sources, the important aspects of emotions, its outward signs and the consequences of the manifestation of the individual forms of anger are key concepts from the point of view of content. From a semantic perspective, it is clear that the concept of anger is reflected in: a) a certain degree of loss of control over a situation and the loss of control that arises from it; b) the perception of the negative opinion of an individual on a phenomenon, action or fact; c) the rejection of this phenomenon and a readiness to expend energy to remove the undesired phenomenon, state or fact. It also showed that anger is very often, even essentially, linked with: d) an experience of an apparent injustice and e) the effort to reject or change it by expending energy. It is this belief in the meaningfulness of taking action against the source of anger that differentiates it, in particular, from other states and emotions such as: humbleness (the acceptance of the fact that I am not the criterion of justice) and fear (the absence of the belief that I can achieve justice, or the prioritisation of my protection over possible self-harm). Anger itself is frequently viewed, with a relatively high degree of intersubjective approval, as unpleasant, ugly, evil, passionate, animal and fast. The correlation between anger and men is culturally apparent, but not substantially significant. On the other hand, the evaluation of anger as immoral, unsocial, unjust or avoidant is very ambivalent in Turkish. The manifestation of anger can be viewed as a significant signal to prevent possible negative and undesirable situations, or, at the same time, as the cause or source of these situations. For this reason, more detailed research into the perception of the individual aspects and levels in the assessment of anger by an individual and across various cultures is highly desirable.<sup>4</sup>

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