

DOI <https://doi.org/10.30525/2592-8813-2022-1-21>

THE METHOD OF FREE ASSOCIATION AND ITS APPLICATION TO IDENTIFY THE MAIN PERSISTENT FEARS AND THEIR DETERMINANTS

Tetiana Khraban,

*Ph.D. in Philology, Head of the Department of Foreign Languages
of the Military Institute of Telecommunication and Information Technologies (Kyiv, Ukraine)*

ORCID ID: 0000-0001-5169-5170

xraban.tatyana@gmail.com

Abstract. This article aims to identify the nature and the main determinants of fear experienced by cadets of Ukrainian higher military educational institutions and manifested in the actualization of the semantic component 'fear' in the associations evoked by the visual emotional and appraising perception of knowledge about traumatic events. We argue that the forms of fear detected in cadets have common characteristics: 1) connection with prediction, that is, with the future; 2) activation of imagination in order to identify sources of danger; 3) presence of two components directly connected with cognitive activity, namely expectation and uncertainty. Cadets' fear has the modality of anxiety, which can be characterized as a consequence of the inability to assess their own strength and resources.

Key words: emotion, fear, military, association experiment, stress.

Psycholinguistic approach to the contemplation of fear as a linguistic and psychological component of the linguistic picture of the world. More and more psycholinguistic studies are conducted within the visual continuum paradigm. Psycholinguistic studies of visual culture, visual perception and visual thinking have significantly expanded the scope of psycholinguistic analysis and revealed themselves as an efficient instrument for comprehension of verbal communication in the processes of cognitive and intellectual activity, enriched the psychological, cognitive, intellectual, verbal perception of the world and its understanding (Elkins, 2003; Huettig, Rommers, & Meyer, 2011), helped grasp the process of presentation and assimilation of the word, sentence, and meaning of knowledge in the processes of intellectual activity and the variety of cognitive practices (Kremen & Ilyin, 2020). Adoption of the psycholinguistic approach to visual studies may provide important clues to a deeper understanding of the semantic essence of humanitarian knowledge and to further development of a culture of creative thinking and cognition (Kremen & Ilyin, 2020). The course taken by psycholinguistics toward visual studies has opened up new possibilities for the surveying of "embodied knowledge" (Evans & Green, 2006) and situational cognition (conceptualization) (Koreneva, 2019). Conceptualization based on texts is only partially effective (Koreneva, 2019), therefore there is a need for simulation of an event with elements of visualization and emotion (Barsalou 2009; Niedenthal et al. 2005). Such a technique reflects the automatic cognitive processes that take place in the human mind (Koreneva, 2019; Shono et al. 2016) and is effective for the study of emotional manifestations of psychological strain. In that regard, military personnel are the professional group that is pervaded with psychological and emotional strain, because they often have to perform combat tasks in extreme conditions and crisis situations.

Performing of specified combat tasks may be complicated by the psychological component of activity in situations of uncertainty and an expectation of potential life-threatening and stressful events. The problem lies in the psychological strain arising from the emotional immaturity for professional activity, and an inadequate self-control and rational behavior in emergencies. Emotional manifestations of psychological strain include fear. If freedom from fear is unfeasible, it may transform into destructive forms of terror and panic, limit a person's perception and thinking, affect his behavior, and eventually expand into anxiety disorders and phobias (Siemer et al., 2007; Russell, 2003). From

a practical point of view, the study of the emotion of soldierly fear is especially important because the study results can be used to analyze and provide greater emotional control during military operations, to develop anxiety coping skills, the ability to think and act quickly, decisively and adequately in high-risk environments (Wallenius et al., 2004). To strengthen the military capacity, it is necessary to know what situations (dangers) cause fear. However, experimental study of the emotion of fear in a combat setting is limited because it is ethically impossible to intentionally expose people to real danger (Wallenius et al., 2004). To a certain extent, this is compensated by turning to psycholinguistic research methods and by the contemplation of fear as a linguistic and psychological component of the linguistic picture of the world. The study of human emotions has advanced considerably in recent years, but the study of the emotion of fear cannot be entirely experimental study. In view of the fact that experimental research cannot put participants in real and immediate threat of death (Wallenius et al., 2004), some aspects of emotional psychology cannot yet be studied on the basis of principles and methods of laboratory approaches. These aspects can be analyzed only through qualitative analysis of experiences conveyed through language (Buckley, 2016).

A review of recent publications on the role of language in emotion. The theoretical and methodological basis of the study is premised on the postulation that language plays an essential role in the perception and experience of emotions, determines the nature and appropriateness of emotions that are perceived or felt in the first place (Lindquist et al., 2015). In order to examine maladaptive reactions of a group of people who endure threats and hazards related to their professional activities but continue to preserve their cognitive functioning, Wallenius, Larsson and Johansson (2004) analyzed these people's descriptions of their reactions to risks and hazards arising during observer missions. The researchers concluded that in a particular hazardous incident most participants subjectively coped with the situation, although half of the group had partial loss of cognitive function and about one-tenth of the group had severe dysfunctional reactions. Cluster analysis revealed that self-reported cognitive limitations in hazardous incidents were associated with two factors: 1) complicating situational factors such as high threat levels, complex decision-making demands, lack of control; 2) individual vulnerabilities such as general nervousness, anxiety, psychosomatic symptoms (Wallenius et al., 2004).

In pursuance of demonstration that the verbal denotation of emotional experiences is subject to the principles of regularity Scherer and Meuleman (2013) employed an expert system Geneva Emotion Analyst (GEA) to analyze the self-reports that refer to information about the emotions experienced by the respondents participating in the Internet survey. Respondents recalled their appraisals of emotion-inducing events and described the emotional experience with one or two words, thereby creating a data set related to realistic, strong emotions in everyday life. The results proved the effectiveness of the Component Process Model (CPM) that "encourages focused, hypothesis-guided research on elicitation and differentiation, memory storage and retrieval, and categorization and labeling of emotion episodes" (Scherer & Meuleman, 2013). The practical implementation of this study is the prospect of incorporating its results into research of emotion terms in the semantics of natural language.

Study of Siemer, Mauss and Gross (2007) is based on the appraisal theory of emotion, according to which a person's interpretation of a situation, rather than the situation itself stirs up the appropriate emotions (or lack of emotions). The researchers studied respondents' emotional reactions to a standard laboratory situation. The respondents' appraisals of a situation predicted the intensity of individual emotions. Moreover, subgroups of participants in the experiment with similar emotional response profiles gave comparable appraisals. Taken together, these results provided grounds for the supposition that appraisals might be a sufficient premise to distinguish different emotional responses to a particular situation.

Scherer and Meuleman (2013) analyzed verbal denotations of emotional states within the framework of the appraisal theory of emotion in order to gradate the level of emotions (for example, within

one basic type of emotion as rage, hatred, irritation). The researchers concluded that applying of verbal definitions to describe emotions rarely encompasses full conscious experience (due to a lack of appropriate linguistic signs or strategic communicative intentions). At the same time, the chosen verbal description may extend beyond emotional experience, “as the denotation and connotation of the concepts used in the verbalization may add surplus meaning” (Scherer & Meuleman, 2013). This study has also demonstrated that the cognitive component of the emotion, mainly the appraisal process, seems to be sufficient to differentiate the set of basic modal emotions. So, the theoretically derived predictions provide a solid basis for further analysis of causal mechanisms in the generation and differentiation of emotions (Scherer & Meuleman, 2013).

In the context of this study, the works performed within the framework of the psycholinguistic paradigm are of particular interest with regard to the associative representation of emotional states. Kuppens, Van Mechelen, Smits and De Boeck (2003) studied individual differences in situation-specific appraisals and anger experience in the relations to five components of action tendency: goal-obstacle, other accountability, unfairness, control, and antagonism, which were considered in terms of specificity, necessity, and sufficiency. During the psycholinguistic experiment respondents described recently experienced unpleasant situations in which one of the appraisal-action tendency components was present or absent and indicated which emotions they had experienced.

The results of these experimental studies underwent a process of critical re-thinking in line with the psychological constructionist Conceptual Act Theory (CAT) in the theoretical works of Lindquist (2015; 2017; 2021), MacCormack, Shablack (2015), Gendron (2013), Barrett, Mesquita, Ochsner, Gross (2007). The basic tenet of this theory is the assertion that language as a fundamental element of emotion determines both the experience of emotion and its perception. Language is engaged in the individual’s lifelong process of conceptual knowledge production and creation of abstract emotion concepts. Later these concepts are used to give meaning to current sensory perceptions. That is, “language serves as the “glue” for emotion concept knowledge, binding concepts to embodied experiences and in turn shaping the ongoing processing of sensory information from the body and world to create emotional experiences and perceptions” (Lindquist et al., 2015).

Despite a considerable number of works on the role of language in emotion, this article is the first attempt to reveal the nature and the main determinants of fear experienced by cadets of Ukrainian higher military educational institutions and manifested in the actualization of the semantic component ‘fear’ in the associations evoked by the visual emotional and appraising perception of knowledge about traumatic events.

Materials and methods. Based on the assertion that any word as a part of speech activity has some emotional meaning, but this “faint emotionality”, which is important from the point of view of the psychological content of speech and alternatives of word operation can be revealed only by association analysis (Pischalnikova, 2019), advantage was given to the psycholinguistic research method, namely the free association experiment. Associations in the work are understood as regular relationship between two contents of consciousness (sensations, perceptions, thoughts, feelings, etc.), which are characterized by the fact that the appearance in consciousness of one of the contents entails the appearance of the other (Mesheryakov & Zinchenko, 2003). Association experiment is based on emotional and appraisal perception (Garrod, 2006), which “...is identified through the analysis of associations containing appraisal, emotion, or appraisal and emotion simultaneously; it enables to compare the overall intensity indexes of the approving and disapproving appraisal attributed to the denotation by the consciousness of native speakers” (Sternin, 2020). We consider emotions as a component process that involves different levels of cognition (situation appraisal); motivational changes (action tendencies); physiological reactions; motor expression; and subjective feeling (Frijda & Scherer, 2009). This study places “special emphasis on the cognitive component and assumes that changes in the other four components are largely driven (in the sense of recursive causality) by the

appraisal process, which encompasses evaluations of relevance, goal congruence, coping potential, and norm compatibility” (Scherer & Meuleman, 2013). Fear is an emotion that is an intermediate variable between sets of context-dependent stimuli and sets of behavioral responses (Adolphs, 2013). Regarded as a central state of an organism, fear is something that shapes conscious experience and affects behavior. In turn, fear is induced by certain sets of stimuli (depending on the context). So, fear is an emotion that establishes linkage between stimulus sets and patterns of behavior. As distinct from reflexes, this linkage is much more flexible, and the state of fear can exist prior to and after the eliciting stimuli, occur in anticipation of an event (Adolphs, 2013).

Distinction of the free associative experiment conducted in this study is that the stimuli are pictures presenting images, concepts, ideas of a traumatic event, which usually causes the emotion of fear. We selected 19 pictures, six of which are abstract ones with emphasizing of forms and lines rather than details and objects. There is no color information about objects on these pictures, only the outlines of objects are present, so the pictures represent something unrecognizable for the respondents but that carries some implication. The remaining thirteen pictures are images of real places, events, objects, animals that embody some symbols suggesting the loss of friends and relatives, mutilation, instant death, captivity, betrayal, destruction, deprivation, danger, suffering, that are the typical stressors of war. The pictures are chosen in such a way that the subject matter may trigger memories of highly emotional events (critical incidents), which remain intense and detailed for decades, so these memories can recreate the original emotions (Mattley, 2002; Levine and Pizarro, 2004), even if the brain is not focused on emotions at this time (Dehaene, 2014). It should also be noted that associative structures are one of the forms of reflection of inter-linkages between reality objects, but due to their automatism associations not only reflect real existing objects but also establish new connections between these objects. Awareness and recognition of the object occur on the basis of these new connections (Stacy et al., 2006) that makes it possible to conclude about a certain probability of onset of fear in cadets as well as to make some predictions about the most stressful situations for them during combat operations (missions). In this case, the negative associations to the pictures of real objects may indicate a specific, objective fear of some situation, while the negative associations to the first six abstract pictures may indicate the existence of mythical fears or fears that are different, specific to each respondent.

Participation in the experiment was voluntary. All respondents were verbally informed of their rights, and complete anonymity was ensured. The respondents of this free association experiment were given the following instructions: “Look at the pictures and quickly, without thinking about them a lot write down on the answer sheet any word that first came to mind. The time of the association experiment is limited to five minutes”. The association experiment was conducted as part of a pilot study in Military Institute of Telecommunications and Information Technology (Ukraine) in May 2021. The respondents were 25 first-year and second-year cadets aged from 20 to 25 (average age $M = 21.9$), there were 21 males and 4 females.

Limitations. The present study has a number of obvious limitations. The main limitation lies in weakness of association experiment as a method of research, namely: “semantic interpretation of associations is entirely in the researcher’s competence. This fact reduces the objectivity of the procedure. In addition, most of the semantic components identified during an associative experiment turn out to be peripheral. The core semantic contents are distinguished worse than peripheral ones. The associative response significantly depends on the conditions of the experiment, respondents’ age, gender, profession, social status, many other factors” (Sternin, 2011).

It should also be noted that, unfortunately, a standardized database of pictures for identifying probabilistic fears in people who may later be exposed to risks and dangers during participation in combat operations (missions) could not be found, so pictures were taken from free public domain image websites with Creative Commons CC0 license: STOCKSNAP (<https://stocksnap.io/>), UNSPLASH

(<https://unsplash.com/>), PICJUMBO (<https://picjumbo.com/>), PICOGRAPHY (<https://picography.co/>). One of the problems is that the norms for choosing these pictures were not developed, and so it was based on the researcher's preferences, which probably influenced the results.


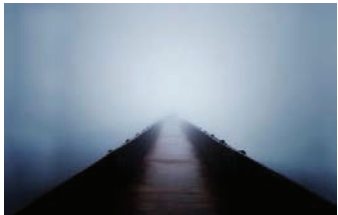


Doubts also arise regarding the comprehensiveness of the coverage of situations that can evoke the emotion of fear during participation in combat operations (missions). The researcher's selectivity with regard to situations might reduce the accuracy of the predictions, because then the association experiment might not always reveal the emotion of fear, since a picture of a potentially dangerous situation was not among the available options. In addition, we should take into account the varying degrees of respondents' sensitivity to the proposed visual symbols of war.

Results and discussions.



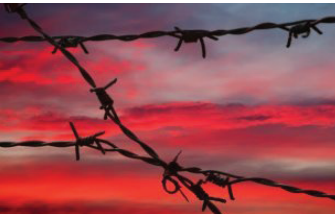



The results of the association experiment are summarized in the table. The associations are divided into two groups: 1) with positive or neutral connotations and 2) with negative connotations.

Tab. 1.

Results of an association experiment aimed at identifying probabilistic fears

N.	Pictures-stimuli	Received associations	
		with positive or neutral connotations	with negative connotations
1	2	3	4
1.		Self-contemplation (1), morning jog (1), no matter what (1), hermit (1), new challenges (1), England (1), dream (1), undiscovered (1)	Loneliness (2), fear (9), sadness (2), Exclusion zone (1), road to nowhere (1), emptiness (1), anxiety (5), frustration (2), uncertainty (4), Chernobyl (1)
2.		Road (1), rebirth (1), awareness (1), path to success (1), reflection (1), long way (1), absolution (1), silence (1), tranquility (1), heaven (1), hope (1), consciousness (1), purity (1), summer session (1), infinity (1), road to future (1), appeasement (1)	Loneliness (6), emptiness (2), death (9), place after death (1), end of life (1), the unknown (7), doubt (2), transition to another world (1)
3.		Transience of time (1), time (1), the past (1)	Emptiness (2), loss of meaning in life (1), doubt (4), desolation (3), dark side (1), fatigue (1), frustration (3), death (6), self-criticism (1), shame (1), withdrawal (1), end of life (1), ghost (1), resentment and weariness (1), brevity of life (1), apathy (1), heartache (1), black hole in the ground (1), loneliness (1), bitterness (2)
4.		Strength (1), noise (1), fall (1), freedom (1), solar eclipse (1), thoughts (1), persistence (1), choice (1), anger (1), night (1)	Cemetery (1), bad day (1), horror (3), run of bad luck (1), gloom (1), chaos (1), bad mood (1), fear (5), Chernobyl (2), something terrible coming (1), evil (2), tension (1), abandoned place (1), trouble (1), old age (1), hate (1), Exclusion zone (1), dead people (1), apocalypse (1), plague (1), oppression (1), graves (1), dark Ones (1), sadness (1)



Continuation of Table

1	2	3	4
5.		<p>Old movie (1), beauty in simplicity (1), minimalism (1), resilience (1), endings (1), peace (1), tree of life (1), upcoming and unknown (1), relaxation (1), inner peace (1), aspiration, light (1), individuality (1), core strength (1), purposefulness (1), nature (1), lonely oak (1), peacefulness (1), stability (1), development (1)</p>	<p>Desert (1), monster with 50 hands (1), man without friends and family (1), night (1), loneliness (1), death (2), timelessness (1), wasteland (1), sadness (1), frustration (1), fear (2), inner emptiness (1)</p>
6.		<p>Bright future (1), success (1), finding happiness (1), way out (1), hope (1), end and beginning of the way (1), way out of any situation (1), heaven (1), Harry Potter (1), new and unknown (1), change (1), success (1), future, UFO (1), vivid memories (1), breakthrough (1), Egyptian pyramids (1), courage (1)</p>	<p>Anxiety (1), escape (1), death (7), madness (1), failure (1), end (1), illness (1)</p>
7.		<p>Dreams of freedom (1), military institute (1), reflection (1), border (1), over the line (1), tranquility (1), forbidden fruit (1), beauty (1), evening sunset (1), freedom (1), army (1)</p>	<p>Indifference (2), pain of bereavement (1), inaccessibility (3), stiffness (1), detachment (2), impassivity (1), withdrawal (2), unfulfilled dreams (1), indecision (2)</p>
8.		<p>Childhood (1), home (1), dream (1), way to dream (1), freedom (1), rest (1), time to stop (1), waiting (1), coolness (1), solace (1), memories (1), walk (1)</p>	<p>Loneliness (3), sadness (5), longing for a loved one (1), nostalgic for childhood (1), emptiness (2), frustration (2), abandonment (1), ageing (1)</p>
9.		<p>Salvation (1), humanity (1), courage (1), second wind (1), gratitude (1), took children after divorce (1), hope (1), responsibility (1), cataclysms (1), saving the future (1)</p>	<p>Death (4), disaster (1), war (1), explosion (1), poverty (1), terrorist attack (1), pain (2), indifference (1), revenge (1), deprivation (1), end of the world (1), fear (4), anxiety (1), Iraq (1), Syria (1)</p>
10.		<p>Range (1), noise (1), blast wave (1), emotional outburst (1), emotion (3), military exercises (3)</p>	<p>Trials (1), anger (2), fear (3), chaos (1), destruction (3), Afghanistan (1), Syria (1), nervous breakdown (1), greed and stupidity (1)</p>

Continuation of Table

1	2	3	4
11.		Smell of kerosene (1)	Broken dreams (1), victims (3), fear (3), death (8), 9/11 (1), firefighters (1), Twin Towers (1), danger (1), Chuguev (1), tragedy (2), panic (1)
12.		Not worth a damn (1), defense of the homeland (1), Berdichev (1), swamp (1), autumn (1), courage (1), defense (1), Donbass (1), determination (1), patriotism (1), self-control (1), friendship (1), patience (1), trials (1), army (4)	Trench foot (1), discomfort (1), war (6), hardship (4), cold (2), 24/7 work (1), stench (1), lack of funding (1), difficulties encountered (1), bad weather (1), obstacles (1)
13.		Place to rest (1), joy (1), solitude (1), flowers (1), syringes (1), specific smell (1), hope (1), hospital (1), love of a close friend (1), sleep (1)	Sickness (7), medicine (4), death (3), sadness (1), crying (1), pain (2), fear (2), obstruction (1), torment (1), boring and muggy (1)
14.		Warning (1), military exercises (1), determination (1), risk (1), Russian roulette (1), surprise (1)	War (5), death (6), injury (4), danger (2), Donbass (1), ruthlessness (1)
15.		Old age (6), struggle (3), perseverance (1), family (1), destiny (1)	Suffering (6), pain (4), helplessness (6), despair (2), restriction (2), injustice (2), human ingratitude (1), government indifference to its own citizens (1)
16.		Saving lives (4), donation (5), help (4), support (1), hope (3), sacrifice (1)	Sleepless nights (1), desperation (2), vampire (1)
17.		Loyalty (3), long journey (1), journey (3), pet (1), finding yourself (1), love (1), happiness (1), personal choice (1), thirst (1), adventure (1), western (1), freedom (1)	Suicide (1), betrayal (2), unfaithful friends (1)

End of Table

1	2	3	4
18.		Society (1), Ninja Turtles (1), team (1), family (1), survival skills (1), our mentality (1)	Sewage (3), garbage (3), disease (5), filth (2), stink (1), mob mentality (1), betrayal (2), outcasts (1), poverty (2), indifference (1), despair (1), plague (2), flood (1), dysentery (1)
19.		Lull (1), repair (1), construction site (1), store (1), time (1), abandoned house to walk around with friends and look for something interesting (1)	Death (6), war (5), explosion (2), shelling (1), destruction (2), bombing (1), grief (2), natural disaster (1), loss (1), poverty (1), despair (3), old age (1), hopelessness (2), suicide (1), slums (1), poverty (1), mourning (1), devastation (1), Chernobyl (1), end of the world (1), homeless shelter (1), hurricane (1), nuclear explosion (1), hopelessness (1)

The division of associations into two groups at the first stage of study enables to focus on the part with negative connotations that indicate negative past experiences manifested at the linguistic level through category *emotionality*. The high concentration in the set of associations of emotive words, the semantics of which reveals an emotional attitude indicates the success of the experiment. Also it should be noted that the availability of large amounts of associations with positive or neutral connotations (43%) suggests cadets' fear resistance.

At the second stage, the emotive words were divided into 1) feeling words (lexemes that name the emotions and have the semantic component 'fear'), and 2) lexemes that do not name the emotions but have the semantic component 'fear'. The responses to the abstract pictures are following feeling words: *fear, terror, sadness, insecurity, hatred, desolation, loss of meaning in life, doubt, disappointment, shame, exasperation, withdrawal, self-criticism, resentment and exhaustion, frustration, tension, oppression, anxiety*. Their density (the concentration of these words in the total set of associations, both with negative, positive, and neutral connotations) reaches 40%. The density of words that do not name the emotions but have the semantic component 'fear' is 42%. Among them there are words that reflect existential fear, which takes shapes: 1) fear of the unfathomability of the world around us, fear of something incomprehensible that exceeds human understanding, when fantasy can evoke all kinds of monsters (*dark side, a black hole in the ground, the approach of something terrible, a ghost, evil, darkness, dead people, graves, dark Ones, cemetery, a monster with 50 hands*); 2) fear of meaninglessness of existence (*disappointment, weariness, apathy, inner emptiness, road to nowhere, wasteland*); 3) fear of death (*death, end of life, unknown, shortness of life, the transition to another world*); 4) fear of uncertainty of future (*doubts, the road to nowhere, failure*); 5) fear of time (*illness, old age, loneliness*). The density of words reflecting the metaphor comprehension of fear (*Exclusion zone, Chernobyl*) is less than 1%. It is also worth noting the differences in the emotional response to abstract photographs. Let's compare the associations-reactions in pictures no. 4 and no. 5. Although these two pictures have a comparable images of a single tree without leaves, the blurred background of picture no. 4 fills it with a completely different semantic content. Therefore, positive or neutral associations predominate among the responses to a clear picture no. 5, and negative associations predominate to a blurred picture no. 5. This suggests that the main determinant of cadet's fear is the uncertainty of the future.

Responses to pictures of real places, events, objects and animals are the feeling words that name emotions and have the semantic component 'fear': *fear, anxiety, panic, stiffness, indecision, despair*. Their density is only 5%. The density of words that do not name the emotions but have the semantic

component 'fear' is 47%. Among them there are words that reflect existential fear taking the form of: 1) fear of something incomprehensible (*vampire*); 2) fear of the meaninglessness of existence (*broken dreams, injustice, unfulfilled dreams, disappointment, emptiness, abandonment*); 3) fear of death (*death, danger, victims, tragedy*); 4) fear of time (*illness, nostalgic for childhood, old age, regret of loss*). The density of these words is 6%. The density of words reflecting cadets' constructive fears when fear acts as a natural defense mechanism promoting better adaptation to an extreme situation reaches 41%. These constructive fears are 1) fear of rejection (fear of being unrecognized, unwelcomed, unappreciated, despised, fear of indifference) (*rejected, indifference, poverty, lack of funding, human ingratitude, government indifference to its own citizens, slums*); 2) fear of hardships of military life (*wet feet, dirt, stink, discomfort, difficulty, cold, 24/7 work, stench, bad weather, boring and muggy, sleepless nights*); 3) fear of dying in agony, of being maimed, of becoming disabled (*pain, torment, injury, danger*); 4) fear of bereavement and grief (*loneliness, pain of bereavement, sadness, longing for a loved one, mourning*); 5) fear of betrayal (*betrayal, unfaithful friends*); 6) fear of immediate external danger (*nuclear explosion, explosion, shelling, bombing*).

The density of words reflecting the metaphorical meaning of fear (*9/11, firefighters, Twin Towers, Chuguev, Iraq, Syria, Afghanistan, Donbass, plague, flood*) is 2%. In the case of reactions to pictures of real places, events, objects and animals the main determinant of cadets' fear is possible pain, anguish and suffering.

Conclusions. The application of the associative experiment technique to identify probabilistic fears through the associations evoked by the visual emotional and appraising perception of knowledge about traumatic events enables to speak of the prospect for psycholinguistics in further development of visual culture, visual perception, and visual thinking studies.

The study demonstrates the compatibility of concepts and applications of emotional psychology with experimental psycholinguistic methods, and proves that those psychological aspects of human consciousness for study of which laboratory approaches are ineffective can be analyzed through linguistic manifestation of experience by means of qualitative analysis. It has been found that the form of the pictures used as a stimulus in the associative experiment is a decisive factor in revealing the nature of the fears. Abstract pictures, which due to the lack of information about color do not actualize details and objects like a typical picture but shapes and lines are oriented toward the identification of existential fears. Among them there are: 1) fear of something incomprehensible that exceeds human understanding; 2) fear of meaninglessness of existence; 3) fear of death; 4) fear of uncertainty of future; 5) fear of time. The main determinant of cadets' fear is the uncertainty of the future. Pictures of real events (stressors) of war identify constructive fears that promote better adaptation to extreme situations. Among them there are: 1) fear of rejection; 2) fear of hardships of military life; 3) fear of dying in agony, of being maimed, of becoming disabled; 4) fear of bereavement and grief; 5) fear of betrayal; 6) fear of immediate external danger. The main determinant of cadet's fear is possible pain, anguish, and suffering. The forms of fear detected in cadets have common characteristics: 1) connection with prediction, that is, with the future; 2) activation of imagination in order to identify sources of danger; 3) presence of two components directly connected with cognitive activity, namely expectation and uncertainty. So, cadets' fear has the modality of anxiety, which can be characterized as a consequence of the inability to assess their own strength and resources.

References:

1. Adolphs, R. (2013). The biology of fear. *Curr Biol*, 23(2), 79–93. <https://doi.org/10.1016/j.cub.2012.11.055>
2. Barrett, L.F., Mesquita, B., Ochsner, K., Gross, J.J. (2007). The experience of emotion. *Annual Review of Psychology*, 58, 373–403

3. Buckley, R.C. (2016). Qualitative Analysis of Emotions: Fear and Thrill. *Frontiers in Psychology*, 7, 1187. <https://doi.org/10.3389/fpsyg.2016.01187>
4. Dehaene, S. (2014). *Consciousness and the Brain*. New York, NY: Viking.
5. Elkins, J. (2003). *Visual Studies. A Skeptical Introduction*. New York: Routledge.
6. Frijda, N.H., Scherer, K.R. (2009). Affect (psychological perspectives). In D. Sander, K.R. Scherer (Ed.), *Oxford Companion to Emotion and the Affective Sciences* (p. 10). New York: Oxford University Press.
7. Garrod, S. (2006). Psycholinguistic Research Methods. In book: *Encyclopedia of Language & Linguistics* (pp.251–257). <https://doi.org/10.1016/B0-08-044854-2/04155-9>
8. Huettig, F., Rommers, J., & Meyer, A.S. (2011). Using the visual world paradigm to study language processing: a review and critical evaluation. *Acta psychologica*, 137(2), 151–71. <https://doi.org/10.1016/j.actpsy.2010.11.003>
9. Koreneva, O.B. (2019). Combining corpus linguistics methods and experimental psycholinguistics in the terminology study. *Journal of psycholinguistics*, 4(42), 62–75. <https://doi.org/10.30982/2077-5911-2019-42-4-64-77>
10. Kremen, V., & Ilin, V. (2020). Psycholinguistic peculiarities of the discourse of visual epistemology: from logos to visio. *PSYCHOLINGUISTICS*, 28(1), 168–186. <https://doi.org/10.31470/2309-1797-2020-28-1-168-186>
11. Kuppens, P., Van Mechelen, I., Smits, D.J. M., De Boeck, P. (2003). The appraisal basis of anger: Specificity, necessity and sufficiency of components. *Emotion*, 3(3), 254–269. <https://doi.org/10.1037/1528-3542.3.3.254>
12. Levine, L.J., and Pizarro, D.A. (2004). Emotion and memory: a grumpy overview. *Social Cognition*, 22(5), 530–554. <https://doi.org/10.1521/soco.22.5.530.50767>
13. Lindquist, K.A. (2017). The role of language in emotion: existing evidence and future directions. *Current Opinion in Psychology*, 17, 135–139. <https://doi.org/10.1016/j.copsyc.2017.07.006>
14. Lindquist, K.A. (2021). Language and Emotion: Introduction to the Special Issue. *Affect Sci*, 25, 1-8. <https://doi.org/10.1007/s42761-021-00049-7>
15. Lindquist, K.A., Gendron, M. (2013). What’s in a word: language constructs emotion perception. *Emotion Review*, 5(1), 66–71. <https://doi.org/10.1177/1754073912451351>
16. Lindquist, K.A., MacCormack, J.K., Shablack, H. (2015). The role of language in emotion: predictions from psychological constructionism. *Frontiers in psychology*, 6, 444. <https://doi.org/10.3389/fpsyg.2015.00444>
17. Mattley, C. (2002). The temporality of emotion: constructing past emotion. *Symbolic Interaction*, 25(3), 363-378. <https://doi.org/10.1525/si.2002.25.3.363>
18. Mesheryakov, B.G., Zinchenko, V.P. (2003). *The Big Dictionary of Psychology*. St. Petersburg: Prajm-Evroznak.
19. Pishhalnikova, V.A. (2019). Interpretation of associative data as a problem of psycholinguistic methodology. *Russian Journal of Linguistics*, 23(3), 749–761. <https://doi.org/10.22363/2312-9182-2019-23-3-749-761>.
20. Russell, JA. (2003). Core affect and the psychological construction of emotion. *Psychological Review*, 110(1), 145-172.
21. Scherer, K.R., Meuleman, B. (2013). Human emotion experiences can be predicted on theoretical grounds: evidence from verbal labeling. *PLoS ONE*, 8, e58166. <https://doi.org/10.1371/journal.pone.0058166>
22. Siemer M, Mauss I, Gross J (2007) Same situation–different emotions: How appraisals shape our emotions. *Emotion*, 7, 592–600. <https://doi.org/10.1037/1528-3542.7.3.592>
23. Stacy, A.W., Ames, S.L., & Grenard, J.L. (2006). Word Association Tests of Associative Memory and Implicit Processes: Theoretical and Assessment Issues. In R.W. Wiers & A.W. Stacy (Eds.), *Handbook of implicit cognition and addiction* (pp. 75–90). Sage Publications, Inc. <https://doi.org/10.4135/9781412976237.n6>

24. Sternin, I.A, Rudakova, A.V. (2011). *Psycholinguistic meaning of a word and its description*. Lambert Academic Publishing.
25. Sternin, I.A. (2020). Cognitive interpretation of the results of comparative studies. In M.A. Sternina i I.A. Sternin (Red.) *Comparative Studies: A Scientific Digest* (Vol. 17, pp. 11–21). Voronezh: OOO «Izdatelstvo RITM».
26. Wallenius, C., Larsson, G., and Johansson, C.R. (2004). Military observers' reactions and performance when facing danger. *Military Psychology*, 16, 211–229. https://doi.org/10.1207/s15327876mp1604_1