

## PSYCHOLOGY

*Nikitina O.P., Lozovoy D.A.*

### **Gender features of aggressiveness among high school students-engineers**

*Nikitina Oksana Petrovna, Candidate of Psychological Science,  
Associate Professor of Department of Applied Psychology*

*Lozovoy Denis Alexandrovich, student-magister of Practical Psychology  
Ukrainian Engineering and Pedagogical Academy, Kharkov, Ukraine*

**Abstract.** The article is devoted to the study of the gender aspects of the problem of aggressiveness among Ukrainian high school students-engineers. Different views on the aggression and aggressiveness are analyzed. Polyfactorial conditionality of aggression as a behavioural act and aggressiveness as personality traits considering the presence of different types of aggression and bimodal structure of aggressiveness are revealed. The data of carried out empirical study of features of aggressiveness among future Ukrainian engineers of heating energetic and future engineers of sewing productions are represented. Differences in the level of aggressiveness, expression of components of the structure of aggression and choosing coping-stress behavioural strategies between Ukrainian high school students-engineers of different sexes are identified.

**Keywords:** *aggression, aggressiveness, level of aggressiveness, structure of aggression, student-engineer*

**Relevance of research topic** is manifested in three aspects. First of all, from the social point of view, it is necessary to note the presence of an escalation of violence among youth. Students' overactive involvement in virtual reality (social networking, computer games etc.) leads to increasing problems with real interaction. For example, the social networking is a part of daily life for many students, but this can be as useful as non useful. Some students "lives" in social networks and not in the real life. Virtual communication has its own specific and is not the same as real one. Status and prestige in the social network and ways to get them do not necessarily correspond to the real life. At the same time we must not forget about the role of mass media in the process of "decrease in sensitivity". Internet, TV, newspapers and magazines are full of presentations of the cruelty and violence. This makes young people more tolerant to aggression of other people [3].

On the other hand, modernization of the system of higher education in Ukraine and bringing it to the European level leads to changes in the system of training of future engineer. Simultaneously, nowadays there is a need for a "new type" of worker with professional mobility, social mobility, high level of capability of self-improvement, of technical and social creativity and readiness to work in a competitive environment [6].

From the psychological point of view, we must note that naming aggression only as "bad thing" is impossible, because it is an essential dynamic characteristic of activity, human adaptability. So in terms of social psychology, personality must inevitably have a certain degree of aggressiveness (in the "norm" it can manifest necessary socially acceptable quality otherwise it leads to passive behaviour). From the standpoint of educational psychology problem of students' aggressiveness, gender features of students' aggressiveness and choosing of coping-stress behavioural strategies is not yet fully developed (scientific psychology pays more attention to a problem of teenagers' aggression, gender aspects of adult' aggression etc.).

**The primary purpose of this study** is to investigate the gender features of aggressiveness among Ukrainian high school students-engineers.

**Literature review.** Concepts "aggressiveness" and "aggression" are not identical. "Aggression is any form of

behaviour directed to the goal of harming or injuring another living being who is motivated to avoid such treatment" [12, P. 7]. Whereas "aggressiveness" is understanding as personality traits that determine the readiness of an individual to destructive behaviour. In the "Slovar' terminov agressii" in the definition of aggressiveness D. Zhmurov emphasizes that connection between the aggressiveness and some form of aggressive behaviour is unique in each case [9].

In "Instincts and Their Vicissitudes" (1915) Z. Freud suggested that aggressiveness is a component of the ego instincts. Later Freud postulated aggression as the external manifestation of a more basic drive - the death instinct [15].

In the monograph (1939) researches led by J. Dollard presented Frustration-aggression theory (F-A theory). This theory explains aggression as a direct result of frustration. This theory of conditionality of aggression by frustration is supported by L. Berkowitz. His major modification to formulation of base A-F theory: "Frustrations are aversive events and generate aggressive inclinations only to the extent that they produce negative affect" [13, P. 71].

According to social learning theory (A. Bandura [1]), aggression is learned behaviour. So, children learn behaviour by watching after significant others (parents, teachers etc.). From another point of view, aggressive teacher can destructively affect on the psyche of students [5].

Experimental studies confirm aspects of different theories of aggression to a greater or lesser extent. Nevertheless, most evidence have theories of frustration and social learning. Thus, the phenomenon of aggression is multidimensional and multifaceted.

In accordance with understanding social and perceptual components of aggressiveness, it can be underlined potentially aggressive perception and potentially aggressive interpretation as sustainable for some people personality characteristics of perception and understanding of the world [8].

Psychologists differentiate emotional and instrumental aggression. Emotional aggression is determined primarily by impulsive emotions. Whereas instrumental aggression is more cognitive than affective. E. Fromm [10] detects that destruction itself is not a goal, it is only an auxiliary tool for achieving, in other words instrumental aggression

has a specific goal - to provide (get) something that it is necessary. So, this kind of aggression is planned.

Simultaneously, among types of aggression can be distinguished physical and active indirect aggression; physical-active-indirect aggression; physical-passive-direct aggression; physical-passive-indirect aggression; verbal-active-direct aggression; verbal-active-indirect aggression; verbal-passive-direct aggression; verbal-passive-indirect aggression. "Intolerance", "opposition", "dominance", "stereotypical differentiation" – such types of names are given to different forms of pedagogical aggression. Teachers' aggression associated with active, passive and active-passive behaviour strategies and variety of negative emotional reactions anger, negativity, antipathy, aversion etc.) [5].

The integral indicator of aggressiveness includes assertiveness, obstinacy, vindictiveness and intolerance to others' opinions. Whereas aggression is not always a negative property of the personal characteristics. It depends on its direction and degree. E. Fromm distinguishes benign and malignant aggression. E.P. Ilyin determines constructive and destructive aggression of pedagog. H. Shestakova [11] from the perspective of an integrative approach identifies bimodal nature of overall structure of the individual aggressiveness. In this overall structure negative and positive aggressiveness have a dual status. They form a distinct factors and at the same time are connected and interact, modifying each other.

Summing up, we note polyfactorial conditionality of aggression as a behavioural act and aggressiveness as personality traits considering the presence of variability types of aggression and bimodal structure of aggressiveness. Guzmán D. rightly points out that aggressiveness of young people becomes mask that hides numerous conflicts: natural energy requires its use, and if young people do not find out how to intelligently guide it, throw it in aggression [4].

Differences in aggressiveness are the most stable (starting from childhood) among all discovered gender personality differences. Some researchers even believe that the male has survived due to the greater aggressiveness. Nevertheless, modern scholars consider that differences male and female on the aggressiveness are determined by both biological and social reasons [2].

Men's aggressiveness does have natural conditions, but it is not a purely biological phenomenon and is not always antisocial. Aggressiveness boys' groups and men's companies – a phenomenon not so much an individual as a group: a strong and aggressive boys easily win a dominant position in the hierarchy group [7].

According to the data of the research conducted by A.H. Buss and M. Perry, men had significantly higher scores on scales "physical aggression", "verbal aggression", and "hostility" (the largest sex difference was on the scale "physical aggression") [14].

Type of gender contributes choosing of a profession by young people. Traditionally, in the humanitarian professions are more feminine types than in engineering, and vice versa, in engineering are more masculine types than in humanitarian. At the same time according to our observations among the future engineers of heating energetic are more boys and among engineers of sewing productions are more girls.

To test our hypothesis that between Ukrainian high school students-engineers of different sexes there are differences in the level of aggressiveness, expression of components of the structure of aggression and choosing coping-stress behavioural strategies, we conducted an empirical study.

**Procedure and method.** Empirical study of gender features of aggressiveness among Ukrainian high school students-engineers was carried out using methods: "The questionnaire of aggression Bass - Perry" (in adapting by S.N. Enikolopov, N.P. Cybul'skij), "Coping behaviour in stressful situations" (adapted version of "Coping Inventory for Stressful Situations"). The empirical sample consisted of students of III course of Department of energetic and Technological Department of Ukrainian Engineering and Pedagogical Academy (24 boys and 27 girls 19-21 years). Individually data were reduced in the group table and then subjected to statistical analysis with using Microsoft Excel and STATISTICA (version 10.0).

**Data analysis and results.** As indicated in Figure 1, among girls-future engineers from three scales the largest indicators are of the scale "anger", but all indicators of the scales do not exceed the normative values. The overall index of aggressiveness among girls-future engineers is 62.85 and is below mean value for female sample.

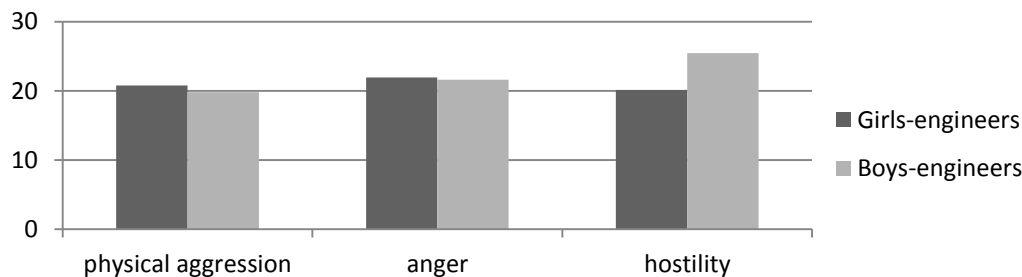


Figure 1. Column diagram of indicators of scales according to the "The questionnaire of aggression Bass-Perry" (in adapting by S.N. Enikolopov, N.P. Cybul'skij) among Ukrainian high school students-engineers

Among boys-future engineers from three scales the largest indicators are of the scale "hostility" (they exceed mean value but do not exceed the diapason of normative values). The overall index of aggressiveness among boys-future engineers is 66.87 and is below mean value for male sample. However, as indicated in Figure 2, the index of "hostility" is higher among boys-future engineers

than among girls-future engineers, and specified difference was set as statistically significant by using Student's t-test ( $t=3,56$ ;  $p < 0,05$ ).

So, among boys-future engineers is more widespread predominance of cognitive component of aggression. This component is based on the experience of feelings of injustice and infringement, unsatisfied desires.

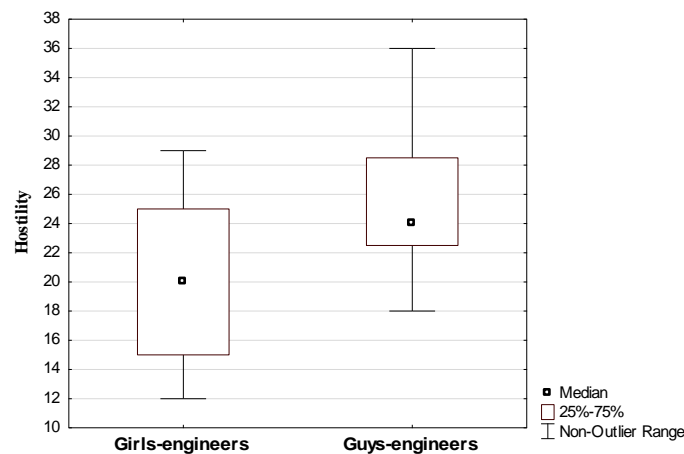


Figure 2. Box plot of "hostility" grouped by the variable "gender of student engineer".

As indicated in Figure 3, from five copings among boys-future engineers and girls-future engineers dominates coping aimed at solving problems. At the same time, on the second place among girls-future engineers is located

coping focused on avoidance and among boys-future engineers - coping focused on emotions. The last specified difference was set as statistically significant by using Student's t-test ( $t = 2,08; p < 0,05$ ).

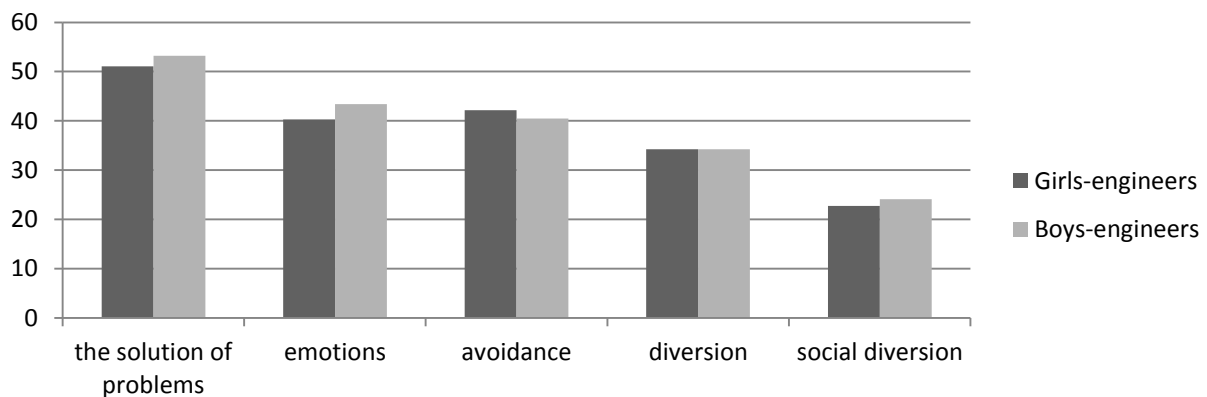


Figure 3. Column diagram of indicators of scales according to the "Coping behaviour in stressful situations" (adapted version of "Coping Inventory for Stressful Situations") among Ukrainian high school students-engineers

### Conclusions and perspective for the future research.

We support understanding of polyfactorial conditionality of aggression as a behavioural act and aggressiveness as personality traits considering the presence of variability types of aggression and bimodal structure of aggressiveness. Our research was dedicated to investigation the gender features of aggressiveness among Ukrainian high school students-engineers. We assume that between Ukrainian high school students-engineers of different sexes there are differences in the level of aggressiveness, expression of the components of its structure and choosing coping-stress behavioural strategies.

The overall level of aggressiveness among boys-future engineers and girls-future engineers is within the normative indicators. At the same time, as expected, level of aggressiveness is higher among boys-future engineers. Level of manifestation components of the structure of aggression among boys-future engineers and girls-future engineers is not the same. Among boys-future engineers dominates the cognitive component, based on the experience of feelings of injustice and infringement, unsatisfied desires. Among girls-future engineers dominates affective component of aggression, which includes physiological arousal and preparation for aggression. For boys-future

engineers and girls-future engineers is more typical using the coping focused on solving the problems. Simultaneously, on the second place among girls-future engineers is located coping focused on avoidance and among boys-future engineers – coping focused on emotions. So, girls-future engineers have the tendency to cope with difficult stress situations by shopping, sleeping, eating delicious food, watching TV etc. In general, they tend to move away from the situation and feelings about it. In contrast, boys-future engineers are tend to cope with difficult stress situations by immersion in feelings: may blame themselves for indecision, for being in this situation, are worrying about what they will do, regret that they can not change what had happened or their attitude to it etc. Summing up our study, notice that its results extends the current understanding of gender features of aggressiveness, nevertheless perspective research of this topic should be carried out with the expansion of the complex of diagnostics instruments, number of examinees, and, of course, involving students from different engineering specialties. It is also important to study the features of the manifestation of femininity / masculinity among students-engineers in the study of the characteristics of their aggressiveness.

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**Никитина О.П., Лозовой Д.А. Гендерные особенности агрессивности среди студентов-инженеров высшей школы**

**Аннотация.** Статья посвящена изучению гендерных аспектов проблемы агрессивности среди украинских студентов-инженеров высшей школы. Анализируются различные взгляды на агрессию и агрессивность. Раскрывается полифакторная обусловленность агрессии как поведенческого акта и агрессивность как свойство личности с учетом наличия различных типов агрессии и бимодальной структуры агрессивности. Представлены данные проведенного эмпирического исследования особенностей агрессивности среди украинских будущих инженеров теплоэнергетики и будущих инженеров швейных производств. Определены различия в уровне агрессивности, выражении компонентов структуры агрессии и выборе копинг-стрессовых поведенческих стратегий между украинскими студентами-инженерами высшей школы разного пола.

**Ключевые слова:** агрессия, агрессивность, уровень агрессивности, структура агрессии, студент-инженер