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Momot Volodymyr 

PhD in Physics & Mathematics,
ScD in Economics, Professor,
professor of the management department
Alfred Nobel University,
Dnipro, Ukraine

vmomot@duan.edu.ua

Lytvynenko Olena 

PhD in Economics, Associate Professor,
associate professor of the management department
Alfred Nobel University,
Dnipro, Ukraine

elena_litvinenko@duan.edu.ua

**THE IMPORTANCE OF PERCEIVED SOCIAL SUPPORT
FOR HIGHER EDUCATION STUDENTS
DURING THE HYBRID EDUCATIONAL PROCESS
UNDER MARTIAL LAW**

Annotation. Based on the processing of large-scale empirical data from the practice of Alfred Nobel University, using the SozU and MSPSS questionnaires, the article investigates the peculiarities of changes in students' attitudes towards social support during studies organized at martial law conditions. Variance, factor, and discriminant analyses of the results were conducted and stratification of attitudes towards social support was revealed according to the year of study and experience of distance learning. Conclusions and generalization made of the experience of working under martial law.

Key words: *distance (online) learning, martial law, perceived social support, SozU, MSPSS, analysis of variance, discriminant analysis.*

Анотація. *На основі опрацювання масштабних емпіричних даних з практики діяльності Університету імені Альфреда Нобеля з використанням опитувальників SozU та MSPSS досліджуються особливості зміни ставлення студентів до соціальної підтримки під час навчання за умов військового стану. Проведений дисперсійний, факторний та дискримінаційний аналізи результатів та виявлене розшарування ставлення до соціальної підтримки відповідне до року навчання та досвідом роботи за дистанційною формою. Зроблені висновки та узагальнення досвіду роботи за умов воєнного стану.*

Ключові слова: *дистанційне (онлайн) навчання, воєнний стан, сприймаєма соціальна підтримка, SozU, MSPSS, дисперсійний аналіз, дискримінаційний аналіз.*

Introduction and relevance of the study. Times of war always leave deep traces in society and one of the most vulnerable segments of society feeling its effects are students. Student youth in Ukraine face a whole set of psychological difficulties that require urgent psychological and social support.

First, students in Ukraine live in a stressful atmosphere due to the military conflict. Fear for their safety and the future of their country is constantly present in their minds. Emotional tension and anxiety can seriously affect students' mental health, complicating their learning and adaptation to the educational process. *Secondly*, students' family environment is also affected by the war. Many students have loved ones who may have been drafted to the front, or they themselves may have been drafted for military service. This creates additional psychological pressure and a sense of uncertainty about the future. A *third problem* is economic instability. The economic hardships have an obvious negative impact on students' financial situation and correspondingly on the access to an education. Increased prices for goods and services, job cuts, and possible financial difficulties in families can create additional pressure on students who are already facing the pressures of studying. A

fourth issue to consider is social isolation. In a war environment, many students may feel isolated from society and peers. Fear of possible threats and restrictions on movement can lead to deterioration of social ties and increased feelings of loneliness.

The need for psychological and social support for students in war conditions is undeniable. Universities and the state should provide students with access to professional psychologists and counselors to help them cope with emotional stress and anxiety. It is also important to organize group support sessions where students can discuss their worries and share their experiences. The state should also focus on the psychological health of students and create programs and policies to reduce the psychological burden of war. This may include financial aid, educational programs on psychological support, and increased access to mental health care.

Problem statement in general form. Given the above, the objectives of this study include:

- specific problems' identification that concern the participants of the educational process in the wartime conditions;
- assessment of the students' psychological state peculiarities and attitudes towards social and psychological support from the closest environment at the conditions of martial law;
- factors' identification which influences the features identified.

Research methodology. The following methods and approaches were used in the study: a survey to identify the main problems that concern students regarding online learning during martial law; psychological testing to study the dynamics of the psychological state and attitudes of students to the environment; descriptive statistics, factor and discriminant analysis, reliability analysis, and scaling to identify factors that determine the characteristics of the psychological state and reaction to the environment.

Presentation of the main research material. Starting from the period of return to online classes in mid-March of 2022 we at Alfred Nobel University begun to collect general data on priorities, attitudes and needs of our students. Initially the approach was quite «coarse» because we seek just general understanding of the

situation and first outcomes of the martial law which influence our students' audience. The cumulative sample of this research is quite broad including 1203 students through 4 semesters. The main outcome of these research which were continued during coming semesters and are active now are visualized on the fig. 1.

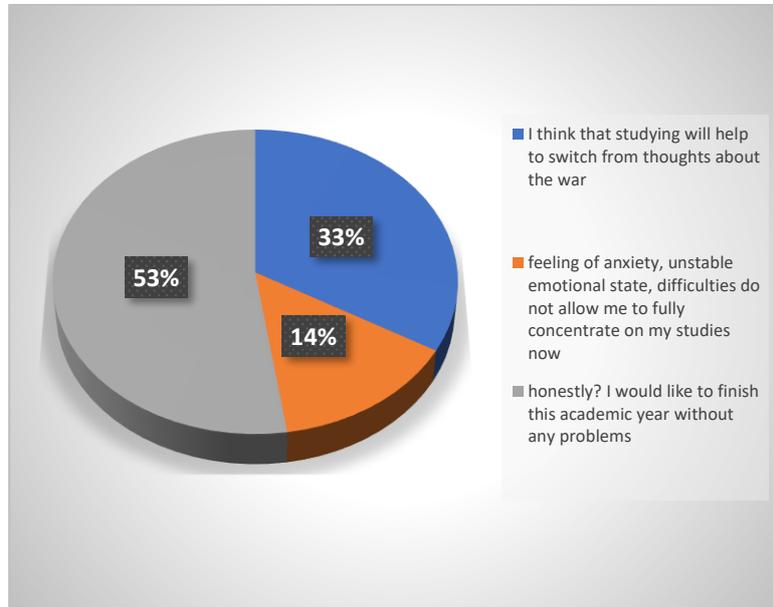


Fig. 1. Cumulative results of students' priorities survey

Source: data collected by the authors

It is apparent that substantial part of the audience neither is really involved into the anxiety nor have unstable emotional state despite it was naturally expected. Nevertheless, more the three quarters of the students (76,2%) admitted that they need a support of certain kind supporting the following status: «Yes, support is very important right now. I would like to devote at least a little time to informal communication, perhaps at the end of the class».

It should be noted that fig. 1 represents just large-scale trend without any separation (by teaching year, direction of study, online-learning experience *etc.*) because the goal of this pre-study was to get general understanding of possible attitudes towards social support. And that data reveals a certain controversy – more than half of the students admit that they are just chasing pragmatical goal to get some grades, at the same time a vast majority seeks support of any kind even trough online classes. To our opinion that is a clear indication of in-depth study importance of perceived social support specifics in case of martial law.

Currently, in the social psychology there is a huge amount of research on the perception of the support from the others. The most popular is the model (theory) of three doors that a person can enter in case of need for support (Zimet *et al.*, 1987) [2]. These three doors are family support, friends support, and support from special others (Zimet *et al.*, 1987) [2]. According to the concept developed within this theory, the level of support from these sources should be balanced, otherwise there is a certain imbalance and, accordingly, a feeling of psychological and emotional discomfort.

The *Soziale Unterstützung (SozU)* (Fydrich *et al.*, 1999) [1] and *Multidimensional Scale of Perceived Social Support (MSPSS)* (Zimet *et al.*, 1988) [3] are widely recognized tools for measuring the support that respondents could get from various sources. The *MSPSS* questionnaire lacks such an important factor as the respondents' perception of the current social burden, so we will present the statistical analysis results only for the *SozU*. It should be noted that the results obtained by the *MSPSS* only confirm the results based on the *SozU*, i.e., this questionnaire was used as a cross-verification tool.

Data on the surveys conducted based on these tools is presented in Table 1, which shows the number of respondents N , a Cronbach's alpha (α) and other basic descriptive statistics (M – mathematical expectation and σ – standard deviation) that characterize the quality and statistical significance of the study.

Table 1

Descriptive statistics of the Soziale Unterstützung and Multidimensional Scale of Perceived Social Support studies at Alfred Nobel University

Questionnaire	N	M	s	α	Kurtosis	Skewness
SozU-54	266	3,4054	1,1892	0,780	0,1311	- 0,4624
MSPSS	183	4,5907	0,9063	0,927	0,8269	- 1,1009

Source: author's calculations

The generalized statistical characteristics – M , σ , kurtosis and skewness (Table 1) – indicate that the survey results correspond to the normal distribution hypothesis, which is a prerequisite for a further statistical analysis.

In analyzing the survey results, the authors proceeded from the following working hypotheses:

Hypothesis 1. The martial law introduction has a significant impact on the social support subjective perception by the individual both on the proportions between its components and on the overall level of the social support perception.

Hypothesis 2. The online studying duration at martial law conditions has a different impact on different components of social support perceived by an individual. As this duration will increase as martial law will be continued it makes sense to expect a relative increase in the perceived support from trusted individuals and a decrease in the other components of the index which could be explained by relative isolation increase.

Hypothesis 3. The overall level of the social support index should differ in accordance with the experience of distance learning in a separate group of respondents.

Let us consider how the research are related to the hypotheses formulated above. To analyze the 1st hypothesis, it is necessary to compare the data on the values of the various factors into which the *SozU* scale is divided (Table 2).

Table 2

Distribution of scores by *SozU* scale factors

(*N* = 266 students, Alfred Nobel University, March 2022-September 2023)

№	Name of the factor	1st year	2nd year	3rd year	4th year
1	Social burden	2,4542	2,6701	2,3667	2,6778
2	Social integration and practical support	3,2417	3,1795	3,2000	3,2667
3	Emotional support from friends	3,8906	3,6573	3,4091	4,0455
4	Emotional support from a trusted person	3,6250	3,6610	2,8333	3,7407

Source: author's calculations

It is obvious that the index of social integration is the lowest for the 2nd year students, and at the same time, the social burden perceived by the same group of

respondents is the highest. This is a basis for concluding that martial law has an impact on such a fundamental aspect of the respondent's emotional state as a social support perception. That is, we got the statistical confirmation of the 1st hypothesis about the martial law influence and the stratification of this influence by different components. Table 3 shows the variance analysis results (one-way ANOVA) by various attributes, starting with the experience of online learning at martial law conditions and before.

Table 3

Analysis of variance (ANOVA)

by factors of the *SozU* scale by different characteristics

(*N* = 266 students, Alfred Nobel University, March 2022-September 2023)

	Sum of squares	Degree of freedom	Middle square	<i>F</i>	Significance
<i>By experience in the online format</i>					
F1	3,651	3	1,217	2,466*	0,063
F2	0,361	3	0,12	0,761	0,517
F3	1,077	3	0,359	0,933	0,425
F4	1,949	3	0,65	1,464	0,225
<i>By behavior</i>					
F1	0,683	3	0,228	0,451	0,717
F2	0,440	3	0,147	0,931	0,426
F3	0,834	3	0,278	0,722	0,540
F4	1,108	3	0,369	0,827	0,48
<i>Participation in student government</i>					
F1	2,367	1	1,183	2,383*	0,094
F2	0,198	1	0,099	0,626	0,536
F3	0,247	1	0,123	0,319	0,727
F4	0,025	1	0,013	0,028	0,973

Source: author's calculations

Considering that the variance of the factor F4 is the second highest in terms of Fisher's F and the significance estimate is quite low (0,225), we can conclude that attitudes of the students of the different years of study are statistically different according to this factor. That is, the 2nd hypotheses about the stratification of the impact of online learning on the psychological state of respondents by online-learning experience was also confirmed. At the same time, the second part of the hypothesis regarding the expected perception increase of the support from the trusted individuals' importance (*besondere andere* – special other persons, from German) was not fully confirmed.

Considering the general statement of the task of this study, we also conducted a variance analysis of respondents' reactions on the basis of belonging to the student parliament (the corresponding calculations are given in the lower segment of Table 3). The results of the calculations show that there is no statistically significant difference in the individual components of the *SozU* scale between student parliament and other students. However, given the existence of negative kurtosis values in the first factor (for 20% of the questions), the statistical significance of 0,094 can be considered a preliminary indication of a difference in the perception of social workload between "ordinary" students and members of the student parliament.

A rather interesting feature of the study was the behavior of respondents during the survey. Microsoft Forms platform which was utilized during the survey allows time tracking spent by respondents on the questionnaires. That made it possible to identify certain behavioral patterns of respondents, which were used as a principle for grouping them. The standardized constants which correspond to generally accepted concepts adopted from scaling theory have been used to assess the «conscientiousness» of respondents in doing surveys (15 seconds per question with Likert scale, up to 20 for 7 grades scale, plus 10-15% of needed time for bipolar scale). Indeed, if a respondent spent significantly less time than defined by the norm specified above probably it indicates that such a respondent is disinterested in the survey, indifferent to its purpose and possible consequences. Correspondingly we could expect that a significant number of responses from such a respondent are

random given to get rid of this burdensome task as soon as possible. Conversely, if the respondent spends time which fits to the standard constants, it indicates that he or she is very conscious about the survey, is confident with its purpose and is motivated to use its results. Also, there could be 3rd pattern of behavior – inattentive respondents. According to the authors, a sign of this behavior is significant time overspending compared to standard constants. Given the peculiarities of conducting computer-based surveys, this excessive time spent may be the result of respondents being distracted from the survey by other computer-related activities, which in turn leads to a decrease in the reliability of the results. The approach described enable to formulate yet another hypothesis to be tested:

Hypothesis 4. The identified behavioral characteristics of respondents are a factor that can lead to a distortion of the results of identifying the social support index.

It should be noted that the analysis of variance (ANOVA) only allows us to determine whether there is a statistically significant difference between the samples, its nature and direction can be revealed only by a more structured analysis. In addition, a structured analysis will allow us to test the other hypotheses formulated at the beginning of this section of the study and check the second one finally. A good start for this will be considering the behavioral characteristics of respondents to test the fourth hypothesis. A discriminative analysis of the entire set of respondents was conducted for this purpose. The results of this analysis for the overall assessment of perceived social support are clearly presented in Fig. 2, where the clusters of points corresponding to individual observations indicate the existence of different trends in respondents' behavior and reflect the difference in scores given by the followers of individual trends. Canonical discriminative functions are a linear combination of discriminant variables, in our case, belonging to a particular behavioral pattern, having some experience in online work, and having a relationship with a student activist.

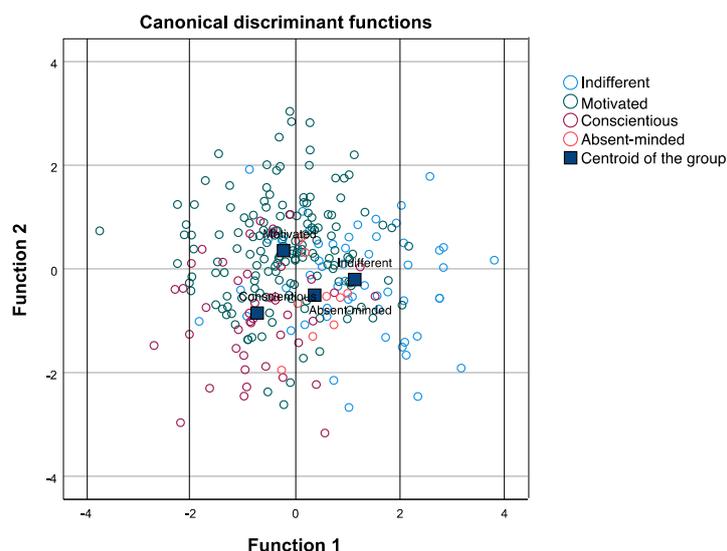


Fig. 2. Visualization of discriminative analysis of respondents' behavioral responses (N = 266 students, Alfred Nobel University, March 2022-September 2023)

Source: author's calculations

It can be seen that motivated and conscientious respondents, i.e. respondents who spent about 5-10 and 10-15 minutes respectively completing the survey, are grouped quite tightly and give somewhat overestimated overall scores of perceived social support and a larger variance of these scores (Table 4).

Table 4

Comparison of mean scores by SozU scale factors

(N = 266 students, Alfred Nobel University, March 2022-September 2023)

	Indifferent		Motivated		Conscientious		Inattentive	
	<i>M</i>	σ	<i>M</i>	σ	<i>M</i>	σ	<i>M</i>	σ
FAV	3,371	0,40325	3,3705	0,30414	3,3451	0,37436	3,3037	0,45697
F1	2,6877	0,84282	2,6203	0,66323	2,6864	0,63581	2,8533	0,90311
F2	3,3509	0,4327	3,31	0,35893	3,2227	0,47271	3,26	0,38419
F3	3,8118	0,69487	3,8536	0,57254	3,7748	0,58539	3,5818	0,98212
F4	3,6043	0,75301	3,7233	0,6367	3,7348	0,6101	3,4889	0,85619

Source: author's calculations

As for the individual components of *SozU*, the motivated and conscientious feel relatively less social burden and significantly more emotional support from a trusted person, besides the variance is for both behavioral groups is also smaller (Table 4). At

the same time, ANOVA does not give even a hint of a statistically significant difference in behavioral characteristics, even when considering the negative kurtosis (the results of the corresponding calculations are given in the central part of Table 3). Another interesting feature of the behavior of motivated respondents is that they are usually the first (within the first two days) to respond to survey-related initiatives, which had provoked the investigation of the typical time range required to complete the survey. The same situation was observed when we studied effects of trust at the remote teaching conditions during 2nd and 3rd waves of a Covid-19 pandemic (Momot, 2021) [4].

Fig. 3 shows a visualization of the respondents' grouping by the online format experience both during the martial law and before giving quite a revealing picture – the 3rd year students who had some experience of the usual format studying of at the University, despite this experience is considerably shorter than the online studying, demonstrate an underestimation in the social support perception.

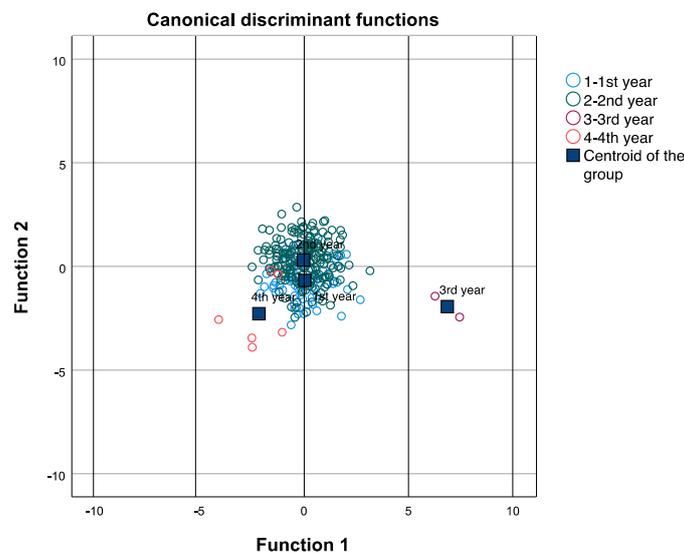


Fig. 3. Visualization of the discriminant analysis of respondents' reactions based on their experience of working in an online format (N = 266 students, Alfred Nobel University, March 2022-September 2023)

Source: author's calculations

To our opinion it happened mainly because they do not feel adequate support from trustees (the statistical significance of these findings was confirmed by the data of the analysis of variance above, see Table 3). The fourth-year students, on the

contrary, give a significantly higher overall assessment of the perception of social support, which can be considered close to statistically significant, given the negative kurtosis on several questions.

General conclusions. Thus, summarizing the general results of the study of the problems that arise regarding socio-psychological support during the remote educational process at martial law conditions, the following general conclusions can be drawn:

- students experience an increase in social workload associated with distance teaching at martial law conditions to varying degrees according to their study experience in the online format. The impact of this experience is not unambiguous, i.e. a certain proportion between the online and offline learning exists that contributes to the subjective social tension release which should be considered in the future when developing the most efficient scheme of hybrid learning;

- as one might expect students' friends and relatives became the main compensators of social workload, and friends slightly to more extent which was unforeseen. That could be also regarded when forming the institutional policy of the students' social support including the creation and equipment the designated spaces/facilities inside the University premises;

- and, on the contrary, students do not feel an adequate increase in support from other trusted persons, which most probable includes teachers. To our opinion they are psychologically inclined to transfer some negative feelings caused by war to teachers who are out of personal contact, at the same time, students increasingly value this contact and seek to restore it in full.

The directions for further research include: expanding the set of tools for diagnosing students' psychological state, attitudes, and basic values, as well as extending empirical research to teachers.

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