Detailed project content

Project name: «The stressful elements of the latent influence of real media reports about the COVID-19 pandemic on social groups»

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3. Detailed project content.

3.1. Current state of the problem.

The state of Ukrainian society during the COVID-19 pandemic has been largely determined by the influence of various media (from traditional to online) on creating safe environment for the population. However, in the absence of research, the hypothetical negative impact of media reports on people can not be ruled out, in particular escalating panic way down to forming stress related conditions, especially, in adult population at risk (60+, people with chronic diseases, etc.). The post-quarantine period will be equally disturbing in terms of feeling of security and safety, because through media people receive alarming information about the second wave, the lack of treatment for coronavirus, etc. Falling into new quarantine during the second wave would only increase fear and insecurity, if at that time science and medicine will not be able to guarantee the cure. The level of anxiety and stress among people belonging to different social groups varies. The impact of media messages on them is also different. In the absence of scientific data on the nature, forms, tools, ways of media influence on society, we can only hypothesize how and whether the media effectively affects the human psyche, whether a person feels protected from media messages or vice versa - falls into depression, despair, panic. No one can say for sure how this impact occurs, no one can make recommendations for the science drived production of safe media messages, because the question remains open about the mechanisms and units / elements of impact on human in the structure of these messages. Recommendations to journalists, editorial top management can be formed only on the basis of scientific evidence, when it becomes clear which structure of media messages and which elements of their content systematically affect (and how they affect) a person depending on his or her social group. Given the fact that the latent hidden effect on the psychophysiological state of person when short-term media effects influencing developmet of various stress related problems are formed, is the most powerful one, we aim to investigate psychophysiological indicators of stressful elements in

content of media messages in order to group, summarize, classify, formalize these elements. Only in this case it will be possible to make convincing recommendations to media on the careful use of stress-labeled elements of media content. In addition, in terms of developing the media culture of the population, disseminating scientific driven data on what to avoid when consuming media products for the purpose of conscious self-protection, recommendations will be developed for various social groups on "mass communication self isolation" to protect their mental health.

3.2. Novelty of the project.

The project is innovative, as the impact of media materials about the COVID-19 pandemic has not yet been studied in Ukraine in general and in the stated aspect of the presented project. The proposed research is interdisciplinary, combining the efforts of media researchers, biologists, sociologists, psychologists and programmers, representing different departments of the participating university. Within the scientific direction "Social and Human Sciences ", this project in its mission and purpose remains socio-humanitarian, but using the methods of related sciences and natural sciences, which makes the methodology of this study also innovative for social and humanitarian research. For the first time in the science of social communications, a method of identifying content elements of media messages that have a hidden effect on a person will be proposed, as well as new results of the study of this phenomenon will be described.

3.3. Research methodology.

The proposed study is primarily social-communicational and utilizes this approach. This means that the main goal of the researchers is to identify those elements of the COVID-19 media content that clearly reflect the authors intentions, as well as to show the real picture of hidden, latent media effects that are not necessarily intentionally related to the communicator, and most important – to identify stressors that may or may not be in the attention of media producers. To achieve this goal, first of all, using scientific media monitoring technologies, COVID-19 messages are recorded, a sample of messages is formed for their analysis and inclusion in the experimental part of the study. As these are real media messages, i.e. those that arise and are recorded during the study, the monitoring process will be carried out constantly and different samples of messages will be formed.

The sociological approach will be applied at the stage of forming audiences for conducting experiments, the aim of which will be to study the selected messages to identify latent effects on the level of human psychophysiology. The division of the audience will be based on age, as well as the attitude to the pandemic and awareness of the level of coronavirus related threat.

The experiment with the subjects will be preceded by the of psychological work aimed to identify, for example, anxiety, the psychological state of the subjects, etc.

During the experiment, the subjects' reactions to the content elements of the media messages will be recorded, they will be interviewed in order to identify the level and content of reflection on the content elements that will cause special psychophysiological reactions. The main thing will be to capture the stressors in the content elements. Such elements will be checked by a clinical psychologist in terms of the generation of possible behavioral deviations, including social, and so on.

At the final stage of the study, the collected data will be interpreted and recommendations will be made for both the media and society in terms of compliance with safety principles for people.

3.4. Substantiation of the project participant's ability to implement the project.

The Principal Investigator and project participants are aware of their responsibility to obtain the study results, as the proposed group of researchers has been working together for many years and performed similar interdisciplinary research topics. In particular, Y. Havrylets performed postgraduate studies in the Taras Shevchenko National University of Kyiv and defended under the guidance of prof. V. Rizun dissertation on "Short-term media effects in youth groups (based on TV news)" (2013), in which for the first time for Ukrainian media research he used P. Ekman facial expression coding system to measure emotional reactions to media content. During the same period, the close cooperation with S. Tukaiev in conducting experiments has been started. S. Tukaiev is a researcher at the Department of Brain Physiology and Psychophysiology of the Education and Scientific Center "Institute of Biology and Medicine" of the Taras Shevchenko National Universityof Kyiv. In this collaboration the research group has been initiated, which later included Ivaskevych D. (Kashpur) and A. Popov. The result of this collaboration was scientific articles in co-authorship, which can be found in the personal profiles of project participants, as well as participation in the scientific topic, funded by the Ministry of Education and Science during 2016-2018 (Research № 16BF045-01 "Psychophysiological mechanisms of perception of news content of audiovisual media"). The Principal Investigator of the topic was Rizun V., the researchers associates - Havrylets Y. and Tukaiev S.

In addition, for 6 years Rizun, Havrylets and Tukaiev collaborate with Professor Juergen Grimm (University of Vienna) and his graduate student Andreas Enzminger in the framework of the joint Ukrainian-Austrian reserach project № 15P045-01 (Interpretation of historical problems in international broadcasting), which included psychophysiological and media research conducted on

the basis of two universities, and was reflected, in particular, in oral presentations at conferences and articles:

1) **Rizun V.**, Nosova B., **Havrylets Y.** Holocaust and Holodomor. Memory Culture in Ukraine // International Conference and Workshop Communicating History in the Transnational Space – Media-based Holocaust Reception in Eight Countries, 17th–18th June 2016, Department of Communication, University of Vienna, Vienna, Austria. https://publizistik.univie.ac.at/fileadmin/user_upload/i_publizistik_komm/Veranstaltungen/CommunicatingHistoryEN.pdf

2) **Tukaiev S.,** Enzminger A. The Physiological Impact of Media-Based Holocaust Reception // International Conference and Workshop Communicating History in the Transnational Space – Media-based Holocaust Reception in Eight Countries, 17th–18th June 2016, Department of Communication, University of Vienna, Vienna, Austria (https://publizistik.univie.ac.at/fileadmin/user_upload/i_publizistik_komm/Veranstaltungen/CommunicatingHistoryEN.pdf).

3) Grimm J., Rizun V., Enzminger A., Havrylets Y., Tukaiev S., Khylko M., Nosova B. (2016). Memorial Culture in Ukraine in the Context of Media Perception of Historical Problems (based on documentaries about the Holocaust and Holodomor), Current Issues of Mass Communication, 20, 8-22. (ISSN 2312-5160) (Index Copernicus ICV 2015: 60.47). DOI: https://doi.org/10.17721/2312-5160.2016.20.8-22 (http://comstudies.org/wp-content/uploads/2016/CIMC_2016_no20_pp08-22.pdf)

The result of cooperation between Rizun V. V., Gavrilets Yu. D., Tukaeva S. V., Ivaskevich (Kashpur) D. D. were publications in journals indexed by **Scopus** and **Web of Science**, which is reflected in the profiles of researchers, in particular in the profiles scientific supervisor Rizun V. V. (ResearcherID: F-3873-2017; Scopus Author ID: 57215758104).

Interest in this topic of the Principal Investigator Rizun V. is longstanding, starting from the 80s. While writing his dissertation (defense 1988), the author conducted research at the Faculty of Biology using the technique of skin galvanic reflex to capture the reference points of text perception. The result was appendices to the dissertation and a scientific article that was not included in the scientific profile of this database, namely:

Rizun V. The use of skin-galvanic reflex as a method of studying the component structure of the topic // Editorial and publishing: experience, problems, future / Ed. In V. Rizun.— Kyiv: RVC "Kyiv University", 1997.— P. 159—163.

Sociologist A. Petrenko-Lysak, invited to the project, has a professional education and a degree of candidate of sociological sciences, participated in various sociological and social studies of applied problems of society, among which were topics relaed to communication component and the structure need of social groups or stakeholders studied situations, phenomena and processes. In the educational process she directs the applied research practice of masters students, which is based on real research tasks from various organizations that have research requests on social problems. Acted as an opponent of dissertations: in 2017 Afanasieva D. on the topic "Formation of social potential of Internet communities (on the example of the Transcarpathian region)" and in 2019 Boyko I. on the topic "Constructing the social problem of poverty in the media space of modern Ukrainian society." Among the scientific publications of recent years, the main topics are focused on the study of modern mobile communications and urban issues, but among the publications over the past 10 years there are also the following:

- Petrenko-Lysak A. Modern communications and information hygiene: socio-technological aspect // Creative economy and social innovations. International information and analytical magazine. Electronic scientific periodical. - Issue 1-2011. - No. 1 (1). - P. 94-100.
- Petrenko-Lysak A. Media space as a visualization of the existence of “social landscapes” // Media-reality: the problem of the formation of new values: collection of articles / ed. R.N. Ibragimova. - Abakan: Service Point, 2013 .-- P. 73-76.
- Petrenko-Lysak A. Mediatized space of the city: new technologies and citizens of the future // Branch sociologies in the conditions of global changes and social transformations: Collection of scientific articles to the 25th anniversary of the department of branch sociology of Taras Shevchenko National University of Kyiv / Ordering by A.O. Petrenko-Lisak, V. V Chepak (ed.). - K .: Karavela, 2017. - P. 168-180.

Psychologist Yachnik Y. is engaged in clinical work with people with stress-related psycho-emotional disorders, is a consultant to the WHO Ukraine on the development of training materials on mental health and psychosocial support during the COVID-19 pandemic, has research papers on psychosomatic disorders and organization of mental health care provision.

In carrying out psychophysiological studies it is planned to use the available equipment:

• NeuroCom hardware and software complex (XAI-MEDICA, Ukraine), Education and Scientific Center "Institute of Biology and Medicine" of Taras Shevchenko National University of Kyiv;

• Mobile EEG system SMARTING (mBrainTrain, Belgrade, Serbia), Research Institute, National University of Physical Education and Sport of Ukraine.

3.5 Justification of the need to purchase the equipment at the expense of the grant, as well as the directions of their use after the end of the grant.

To successfully conduct research, it is necessary to purchase additional equipment. EEG is the only objective method for studying the functional state of the brain in general and the effects of mass media in particular. The goals of high-precision monitoring in the laboratory and beyond are best met by the use of more advanced wireless EEG Enobio systems (Spain, Neuroelectrics) using dry electrode technology:

- Enobio 8 channel 5G Wifi EEG Headset (6,661.37 EUR)
- Enobio 20 channel 5G Wifi EEG Headset (16,432.12 EUR)

Featured EEG devices allow EEG-video monitoring, research, during which a long-lasting EEG recording (5-6,5 hours) is performed simultaneously with the collection of data about the behavior of respondents outside the laboratory.

In the study of media effects, it is necessary to analyze the process of visual perception as a multidimensional phenomenon and to take into account the physiological and psychological aspects of (visual) perception and cognition. It is also crucial to evaluate individual reactions. The tools for solving the set tasks are the technologies of eye-tracking and fixation of uncontrolled facial expression. With this in mind, it is proposed to purchase the following devices.

- Tobii Eye Tracking Glasses 2 (12,750 EUR) and iMotions Module - Eye Tracking - Glasses (2,900 EUR)
- iMotions Module - Facial Expression Analysis (iMotions, Denmark) (2900 EUR)

Skin-galvanic reaction (SGR) is an indicator of the activity of the autonomic nervous system (ANS) and is manifested by the changes in the level of psycho-emotional stress and attention. "Fast", "phase" component of SGR characterizes the response of the central nervous system to a situational stimulus, which, depending on the type of human reactivity, lasts from 2-3 to 7-8 seconds. SGR data cannot be consciously controlled and, due to this, the data of the SGR sensor are of a high level of reliability. To measure the galvanic reaction, the acquisition of Shimmer3 (GSR) is assumed:

- Shimmer3 (GSR) (925 EUR) and iMotions Module - GSR (2 900 EUR)

Combining all these devices in obtaining objective physiological indicators with psychological testing data and sociological parameters allows the most accurate assessment of the impact of media on the respondent, consumer of information, and prediction of the consequences for human health, as well as provide recommendations for improving media messages.

3.6 The amount of funding required to carry out research (development), with appropriate justification for the items of expenditure in accordance with the tables in Section VII.

To implement this project requires the amount of 2531880 UAH. The planning is based on the fact that the project actually lasts 14 months, respectively, the salary is distributed in accordance with the salaries provided in Ukraine for researchers.

To effectively conduct research and obtain appropriate results, it is desirable to have the latest technology that can provide the current level of research, and the results will be interesting for world science.

This project involves a large number of surveys, tests, which in turn will require the use of large amounts of paper and powder for printers. Therefore, the purchase of paper and toners follows from the need. It is assumed that the printers of the Institute of Journalism will be used as a division of the university, on the basis of which the research will be conducted.

The amount of funding required to implement the project by cost item:

1) The total amount of funding is UAH 2531880.
2) Funding by year:
    1- 1st year 178860 UAH, 2nd year 2353020 UAH.
    2- Financing of the project (quarterly) for the whole period of its implementation: 1st stage 178860 UAH, 2nd stage 185920 UAH, 3rd stage 1610340 UAH, 4th stage 346260 UAH, 5th stage 210500 UAH.
3) The amount of funding for individual items of expenditure:

Wages at all stages:

Leading researcher - 0.5 rate (Volodymyr Rizun: supervisor, payment for the entire period).

Senior researcher - 1 rate (Petrenko-Lysak A.O.: for the whole period, constant volume of work with the audience, sociological surveys, sampling, participation in writing reports, articles and monographs; Popov A.O.: for the whole period, technological support during experiments, work with equipment, participation in writing reports, articles and monographs).

Researcher - 1 rate (Gavrylets Y.D.: for the entire period, constant monitoring of the media, the formation of samples of media messages, experiments, participation in writing reports, articles and monographs; Tukaev S.V.: for the entire period, conducting experiments, fixation and description of psychophysiological reactions, participation in writing reports, articles and monographs).

Leading psychologist - 1 rate (Yachnik Y.V.: for the entire period, a constant amount of work with each subject to detect deviant reactions, medical and psychological examinations, participation in writing reports, articles and monographs; Ivaskevich D.D.: for the entire period, psychological testing of subjects, psychological interpretation of experimental data, participation in writing reports, articles and monographs).

780890 UAH

Equipment - 2nd quarter of 2021:

Enobio 8 channel 5G Wifi EEG Headset - 1 unit of 126.5 thousand UAH

Enobio 20 channel 5G Wifi EEG Headset - 1 unit of 489,7 thousand UAH

Tobii Eye Tracking Glasses 2**. -** 1 unit of **372,9** thousand UAH

iMotions Module - Eye Tracking – Glasses – 1 unit of 86,4 thousand UAH

iMotions Module – Facial Expression Analysis - 1 unit of 86,4 thousand UAH.

iMotions Module – GSR - 1 unit of 86,4 thousand UAH

1248,4 thousand UAH

Materials - half of the materials at the 2nd stage, 4th quarter of 2020, half of the materials - in the 2nd and 3rd quarters of 2021:

Shimmer3 (GSR). 1 pc - 27569 UAH.

Toner cartridge for the printer Canon 15 pc - 1682 UAH 25230 UAH.

52799 UAH

Stationery costs:

Paper 70 packs - 94 UAH. 6580 UAH.

Other expenses 190000 UAH.

Services for scientific editing of the monograph (220-250 pages, 500 copies) 35 thousand UAH.

Services for editing the English text of the monograph (500 copies) 105 thousand UAH.

Layout, printing and design of the monograph (220-250 pages, 500 copies) 50 thousand UAH.

Invoices - 10% of the total amount of work - 253190 UAH.

3.7 Expected results of the project:

a) it is planned to write four scientific articles for professional scientific periodicals, which are indexed in world databases and recognized by the Ministry of Education and Science (categories a and b). The final product of the basic research will be a monograph in English of up to 220-250 pages which will include descriptions of methods and other intermediate materials that will be prepared at each stage of the project.

b) the results of the proposed study will be a basis for deepening scientific thought about social communications as a type of social engineering. This question has already been raised in Ukrainian science, but it needs experimental confirmation:

Pocheptsov H. H. Communicative engineering: theory and practice / Pocheptsov H. H. – M. : Alterpress, 2008. - 407 p.

Pocheptsov H.H. Social engineering: socio- and psychotechnics of management of large groups of people / H. H. *Pocheptsov*. - K.: Altpres, 2010. - 254 c.

Kholod O.M. Social communication engineering as a methodology of social communications research / Kholod O. M. // World of social communications. - 2012. - V. 8. - P. 7–12.

3.8 Description of ways and methods of further use of results of the project in social practice.

Like any fundamental study, this project will become a theoretical basis for the security assessment of media activities both in the context of the COVID-19 pandemic and, more broadly, the activities of the media in a crisis. The results of the research will be used in educational practice for teaching cycles of media culture and media literacy disciplines. Ukrainian Press Academy as an organization that leads the media-educational movement in society is interested in different kinds of experimental data that can illustrate the importance of the formation of research-based needs for safe attitude to the media in consumers of media product.

This project, with proper funding, in particular, for the purchase of equipment that foreign universities have for such research (from the experience of cooperation with the University of Vienna), will lay the basis for further research in this area. The costs of future studies will be reduced by the equipping of the laboratory with listed devices that will make the laboratory attractive for cooperation with foreign researchers.

3.9 Possible risks that may affect the implementation of the project.

This project is negatively affected by the absence of funding for the purchase of equipment, although it can be partially implemented on the equipment that belongs to the Taras Shevchenko

National University of Kyiv, the National University of Physical Education and Sports, and other universities. However, such allocation of equipment in different institutions will slow down the pace of work, reduce the effectiveness of the project.

In general, there are no insurmountable risks as the team of researchers offered here has experience in organizing almost a decade of joint research in the technological crisis of Ukrainian science and under the influence of constant socio-political, economic and administrative challenges.

Section VII. INFORMATION ABOUT THE AMOUNT OF PROJECT FINANCING

4) The amount of funding for individual expenditure items:

Table 1. Total implementation costs

Total project costs	**Year 1 UAH**	**Year 2 UAH**
1. **Direct costs**	160970	1927720
1.1. Labor costs, including charges	139450	641440
1.2. Materials needed to perform the work, except for special equipment	21520	37860
1.3. Special equipment (equipment)		1248420
1.4. Business trip expenses		
2. Indirect costs (not more than 10% of total costs)	21050	235300
3. Project implementation costs by the subcontractor		
4. Other expenses (if necessary)		190000
Total *, UAH	178860	2353020