

METHODOLOGICAL AND ORGANIZATIONAL ASPECTS OF COOPERATION BETWEEN UKRAINE AND THE EU IN THE FIELD OF PSYCHOLOGICAL RESEARCH

МЕТОДОЛОГІЧНІ ТА ОРГАНІЗАЦІЙНІ АСПЕКТИ СПІВПРАЦІ МІЖ УКРАЇНОЮ ТА ЄС У СФЕРІ ПСИХОЛОГІЧНИХ ДОСЛІДЖЕНЬ

The article presents the main methodological and organizational components that determine the current requirements for scientific research and the structures within which the integration of scientific knowledge of the EU member states is implemented. Throughout the development of the EU, fragmentation of the European Science and Technology System has been identified as a major problem, and attempts have been made to create a broader, unified approach to European science policy that connects National, European and intergovernmental levels. Entry into the EU scientific space is associated with the fulfillment of many conditions and active participation of researchers in the work of joint knowledge exchange platforms, permanent and calendar seminars. The FAIR principles (Search, Accessibility, Compatibility, Multiplicity) are outlined, which emphasize the ability of computing systems to find, access, interact, and reuse data without human intervention (or with minimal human intervention), because people are increasingly relying on computational support to work with data as a result of increasing volume, complexity, and execution speed. and creating data. These principles, in fact, can be considered as an extension of the general scientific methodology, so they also apply to psychological disciplines. Integration of psychological research in Ukraine (and related practices) into ERA and other European structures is not only an organizational challenge, but also provides for solving a number of methodological problems. Due to the need to combine the research resources of scientific schools in Ukraine and the EU countries, it is important to develop methodological tools for integrating psychological knowledge in order to overcome the negative aspects of its fragmentation. Even now, our psychologists can adhere to the FAIR principles in their research, which will significantly increase the degree of integration of Ukrainian psychological science into the EU scientific space. The established specialized research platforms, FAIR principles and other components of the European Scientific Space can become effective tools for solving problems of integrating psychological knowledge at the global level.

Key words: European Research Area (ERA), integration of scientific knowledge, EU member states, fragmentation, knowledge exchange platforms, FAIR principles, general scientific methodology, psychological disciplines, research resources, scientific schools, open science.

У статті представлено основні методологічні та організаційні складники, що визнача-

*ють сучасні вимоги до наукових досліджень, та структури, в межах яких здійснюється інтеграція наукових знань країн-членів ЄС. Упродовж існування й розвитку ЄС фрагментація європейської науково-технічної системи була визначена як головна проблема. Були вжиті спроби створити ширший, інтегрований підхід до європейської наукової політики, який поєднує національний, європейський та міжурядовий рівні. Вхідження до наукового простору ЄС пов'язане з виконанням багатьох умов та активною участю дослідників у роботі спільних платформ обміну знаннями, постійних та календарних семінарів. Викладено принципи FAIR (пошук, доступність, сумісність, множинність), які підкреслюють здатність цифрових систем знаходити, отримувати доступ, взаємодіяти та повторно використовувати дані без втручання людини (або з мінімальним втручанням людини), адже люди все більше покладаються на цифрову підтримку роботи з отриманими даними внаслідок збільшення їх обсягу, складності та швидкості створення. Принципи FAIR можна розглядати як розширення загальнонаукової методології, тому вони поширюються і на психологічні дисципліни. Інтеграція психологічних досліджень (і суміжних практик) в Україні до ERA та інших європейських структур є не лише організаційним викликом, але й передбачає розв'язання низки методологічних проблем. У зв'язку з необхідністю об'єднання дослідницьких ресурсів наукових шкіл України та країн ЄС актуальним є розроблення методологічного інструментарію інтеграції психологічного знання з метою подолання негативних аспектів його фрагментарності. Уже зараз наші психологи можуть дотримуватись у своїх дослідженнях принципів FAIR, що значно підвищить ступінь інтегрованості української психологічної науки в науковий простір ЄС. Створені спеціалізовані дослідницькі платформи, принципи FAIR та інші складники європейського наукового простору можуть стати ефективними інструментами для розв'язання проблем інтеграції психологічних знань на глобальному рівні. **Ключові слова:** Європейський дослідницький простір (ERA), інтеграція наукових знань, країни-члени ЄС, фрагментація, платформи обміну знаннями, принципи FAIR, загальнонаукова методологія, психологічні дисципліни, дослідницькі ресурси, наукові школи, відкрита наука.*

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Formulation of the problem. Ukraine's integration into the European research area is part of the implementation of the Association Agreement between Ukraine and the European Union (in accordance with articles 375–376 of the Agreement on Cooperation between Ukraine and the EU in the field of science and technology). Global

scientific trends stimulated new forms of international scientific cooperation, strengthening the interdisciplinary interaction of sciences and scientifically based practices in order to solve global problems, and developing the idea of a self-sufficient pan-European innovation ecosystem. In the implementation of this idea, a central place

is given to the European research area. ERA also plays an important role in moving the EU towards its strategic goals: a smart specialization strategy, a missionary innovation policy, and a partnership for regional innovation. Given the strategic plans and objectives of the EU, it is important to take advantage of opportunities to expand cooperation between Ukraine and the EU in the field of research and innovation in the context of martial law and post-war reconstruction. The growing presence of Ukraine in the ERA will contribute to its post-war innovative growth and the development of science in the long term.

Analysis of recent research and publications. The Association Agreement between Ukraine and the European Union, in particular, is aimed at the creation and implementation of international scientific programs, developments and innovations, promotion of the free movement of researchers, knowledge and technologies, support for reforming and reorganization of the science management system and scientific institutions, as well as participation in research and innovative programs of the EU [6]. The process of integrating Ukrainian science into ERA, the roadmap of which was approved back in 2018 by the Board of the Ministry of Education and Science [12] and updated in 2021, is taking place in particular in the following areas: optimal transnational cooperation and competition, gender equality in research, optimal exchange and transfer of scientific knowledge, and national cooperation. When developing this document, the experience of Austria and Estonia on integration into ERA was widely used [2]. The main goal of European integration is the formation of central organizational structures and basic methodological principles for conducting scientific research. Fragmentation of the European Science and Technology System was identified as a major problem, and attempts were made to create a broader, unified approach to European science policy, connecting National, European and intergovernmental levels. European Research Area (ERA). ERA was established in 2000 in the context of the Lisbon Strategy. In 2009, the ERA was explicitly recognized in article 179 (1) of the Treaty on the Functioning of the European Union, which elevated the achievement of the ERA to the level of a European Union goal. The European Research Area (ERA) is a single, limitless market for research and innovation that promotes the free movement of researchers, scientific knowledge and innovation and increases the competitiveness of European industry. ERA helps countries be more effective by working together, closely aligning their research policies and programs. The free flow of researchers and knowledge contributes to better cross-border cooperation, critical mass creation, and competition across the continent. The dissemination of cutting-edge research and innovation plays a

key role in modernizing the European research and innovation system so that it can contribute to the transition to digital technologies and climate change, as well as meet other relevant challenges. ERA helps countries be more effective together by strictly aligning their research policies and programs. The free circulation of researchers and knowledge allows (according to [14]): improve cross-border cooperation, build up a critical mass of research and technology, encourage continent-wide competition. The European Research Area (ERA) aims to create a single EU market for research, innovation and technology. First launched in 2000, ERA has helped stimulate research and innovation in the EU by encouraging the free movement of researchers and knowledge, as well as coordinating national research policies and programs of EU countries.

In November 2018, the ERA modernization process began, focused on the gradual transition of the EU to “green” and digital technologies. The following goals of the updated ERA were identified: investing in research and development for a green and digital future, improving access to infrastructure and facilities for researchers, maintaining mobility, skills and career opportunities for researchers, promoting gender equality and diversity, and promoting open scientific practice. On October 8, 2022, the government of Ukraine adopted the order “On approval of the National Open Science Plan”. The document is an important step towards the integration of Ukrainian science into ERA. The implementation of the document ensures the implementation of agreements between Ukraine, on the one hand, and the European Union, on the other. Ukraine has joined the EU countries that have an approved plan for implementing the Open Science principles. Further implementation of the National Open Science Plan is aimed at creating regulatory and legal prerequisites for the formation of the state policy of open science; providing interested parties with open access to devices, tools and other means of obtaining scientific results; ensuring the processing of scientific data taking into account the principles of FAIR; accelerating the movement of scientific information, providing access to up-to-date scientific information discrimination; ensuring greater transparency of the scientific and educational space [7].

The purpose of the article is to outline methodological and organizational aspects of European scientific integration in the context of opportunities for expanding cooperation between Ukraine and the EU in the field of psychological science and innovation of their practices.

Presentation of the main research material. The integration of Ukraine into ERA opens up additional opportunities for the development of the national research system through communication between Ukrainian scientists and research-

ers from EU countries, simplification of access to publications, open scientific data and knowledge, introduction of state support for innovation and new procedures for knowledge transfer, protection and effective use of intellectual property. It is important to use the "window of opportunity" to expand cooperation between Ukraine and the EU in the field of research and innovation. Ukraine's European integration aspirations, granting our state the status of a candidate for the EU, and the need for EU assistance in post-war reconstruction actualize the tasks of accelerating integration into the ERA. For Ukraine, integration into ERA is a tool for deepening cooperation with the EU scientific community and adapting to the standards and norms of the European Union in the field of science and innovation. The State ensures the integration of the National Research Space into the ERA in accordance with the Law of Ukraine "On Scientific and Technical Activities".

The national system of scientific and innovative activity cannot be effective without developed international cooperation, which contributes to the country's innovative development and strengthening its scientific and innovative potential. The already acquired experience of participating in European programs (for example, the successful cooperation of the Silesian University of Technology "Silesian Polytechnic in Gliwice" and the Institute of Industrial Economics of the National Academy of Sciences of Ukraine) clarifies and expands the areas of scientific and innovative cooperation between Ukraine and the EU. The implementation of these directions will contribute to improving the national policy in the field of science development, creating a joint research infrastructure, and implementing international projects [4].

The tasks of updating and improving the roadmap for the integration of the scientific and innovative system of Ukraine into the ERA are being faced. Implementation of the roadmap provides for: harmonization of science and innovation policies in accordance with EU standards and norms; increased access to EU research and innovation programs; development of research infrastructures in Ukraine and their integration into EU infrastructures; creation of favorable conditions for international and intersectoral mobility of scientists; application of an integrated gender approach in the field of science and innovation; application of the -innovation infrastructure taking into account the best European practices; internationalization of research and innovation outside the EU [7].

One of the key pillars of the new ERA is the "Research and Development Pact in Europe". Within the framework of this agreement, the EU member states commit to adhere to common principles and values, focus on common priority areas of activity, implement reforms and simplified policies for coordinating processes and

monitoring in the field of research activities. ERA is a common platform for EU member states and associated countries, designed to form a consolidated policy in the field of research and innovation and ensure the free movement of researchers and knowledge. The concept of ERA consists of six priorities jointly defined by the European Commission, around which each ERA country forms its road map: improving the efficiency of national research systems; jointly solving problems caused by global challenges; a free labor market for researchers; gender equality; Open science and Open innovation; and developing international cooperation.

As part of the ERA activation process, the European Commission published the "New ERA for Research and Innovation" message on September 30, 2020. The report announced four goals [13]: to prioritize investment and reforms in research and innovation to support the transition to digital and green technologies and the recovery of Europe, to improve access to outstanding research and innovation for researchers across the EU, to transform the results into the economy to ensure market demand for research results and competitive development. leading Europe in technology, make progress in the free flow of knowledge, research and technology through closer cooperation with EU countries. According to the organizers, New ERA will: prioritize investment and reforms in the field of research and innovation; increase market coverage; strengthen the mobility of researchers and the free exchange of knowledge and technology; improve access to innovation.

The European Union faces huge social, environmental and economic challenges, but thanks to the joint efforts of the Commission and EU countries, significant progress has been made over the past year. The new ERA management allows for closer collaboration through the creation of a dedicated expert group. In this ERA forum, the Commission and EU countries jointly develop and coordinate the implementation of ERA actions, prepare future updates to the political agenda, and ensure the participation of associated countries, relevant non-EU countries, and stakeholders. A new monitoring system will be created by mid-2022. This includes a scoreboard and dashboard, a policy platform, regular policy dialogues, and reports. The new ERA policy program identifies priority sectors for joint action, investment and reform preferences, and introduces simplified coordination and monitoring. 20 specific actions of the ERA for the period 2022-2024, designed to contribute to the priority sectors identified in the research and innovation pact, have been compiled.: 1) activate open science, including through the European Open Science Cloud (EOSC); 2) propose an EU legislative framework in the field of copyright and research

data; 3) reform the system for evaluating research, researchers and institutions; 4) promote attractive research careers, talent circulation and mobility; 5) promote gender equality in the field of research and innovation. equality and openness; 6) protect academic freedom in Europe; 7) update EU guidelines to enhance the value of knowledge; 8) Strengthen research infrastructure; 9) promote international cooperation; 10) make EU research and innovation missions and partnerships key players in the ERA; 11) ERA for green Transformation; 12 a) accelerate the transition of Europe's key industrial ecosystems to green and digital technologies; 13) expand the capacity of higher education institutions; 14) bring science closer to citizens; 15) create an ecosystem; 16) improve access to innovation across the EU; 17) increase the strategic capacity of public research institutions; 18) support the development of new technologies, development of EU national processes to implement ERA; 19) establish an ERA monitoring system; 20) support research and innovation, investment and reform.

The most complete regulatory framework for the research and innovation program 2021-2027 is the "Horizon Europe Horizon Europe Implementation Program" (Specific Program implementing Horizon Europe) [13].

The Knowledge Exchange Platform (KEP) is a collaborative mechanism that has been in place since 2015 and allows for a strategic and operational dialogue with European regions and cities in the field of research and innovation. KEP brings together academics, politicians and citizens to discuss the challenges facing society and work towards rebuilding and moving towards green and digital technologies.

The new Knowledge Sharing Platform Work Plan (KEP 2.0) was adopted by the European Committee of the Regions on 25 November 2020, and it is fully aligned and contributes to achieving the new priorities of the European Research Area. Its aim is to reduce and eliminate existing and gaps in research, innovation and education in EU regions and cities, namely: effective mobilization, consultation and dialogue of European regions and cities on issues related to research and innovation; effective knowledge exchange between the services of the European Commission, the European Committee of the Regions and its members. The knowledge exchange platform hosts strategic seminars and other events. The strategic seminars aim to bring the main concepts and messages of the European Research Area closer to citizens and expand its reach. There are two seminars per year with 100-150 participants organized in Brussels. Demonstration of ongoing research and innovation projects funded by the EU related to the topic of strategic seminars. Organized by KEP partners in Brussels or locally. A policy dialogue is held at least once a year to

assess strategic cooperation between the Committee of the Regions and the European Commission's Directorate-General for Research and Innovation.

In 2016, the FAIR principles (Findability, Accessibility, Interoperability, Reuse) on the management and rational use of scientific data, recommendations for improving the search capabilities, accessibility, interoperability and reuse of digital assets were proposed [9]. FAIR principles are interpreted as follows. Searchability: 1. Metadata and data are assigned a permanent, globally unique identifier. 2. Data is described with extended metadata. 3. Metadata includes an identifier of the data they describe. 4. (Goal)Data is registered or indexed in a searchable resource. Accessibility: 1. (Purpose)Data is extracted from its identifier using a standardized communication protocol. 2 The protocol is open and free and universal. 3. The protocol allows for authentication and authorization procedures where necessary. 4. Metadata is available even if it is no longer available. Compatibility: 1. (Goal) Data uses a formal, accessible, common and widely used language to represent knowledge. 2. (Goal) data uses dictionaries that comply with FAIR principles. 3. (Goal) data includes qualified references to other (goal) data. Multiplicity: 1. The goal (data) is described in detail with many accurate and relevant attributes. 2. (Purpose) The data is released with a clear and accessible license to use the data. 3. (Goal) the data is linked to its detailed origin. 4. (Purpose) The data complies with community standards related to the subject area.

The Principles emphasize the ability of computing systems (i.e., the ability of these systems to find, access, interact, and reuse data without human intervention or with minimal human intervention), as people increasingly rely on computational support to work with data as a result of the increasing volume, complexity, and speed of data execution and creation. These principles, in fact, can be considered as an extension of the general scientific methodology, so they also apply to psychological disciplines. Good data management and efficient use is not an end in itself, but a precondition that supports knowledge discovery and innovation. Modern science demands that data be available for long-term search, interaction, and reuse, and these goals are rapidly becoming the expectations of researchers and publishers. This data, generated in a remote community, will gradually achieve the most important goals of fairness [15]. Open Science is a movement aimed at making scientific research (including publications, data, physical samples, and software) accessible to all segments of society, both amateurs and professionals. Open science is transparent and accessible knowledge that is shared and developed through collaborative networks. The movement includes practices such

as publishing open research, implementing open access campaigns, encouraging scientists to practice open scientific research, and increasing dissemination and participation in science; and simplifies the publication, description, and sale of scientific knowledge. The use of this term varies considerably across disciplines. "Open research" is sometimes used in relation to the inclusion of the experience of the arts, humanities, and social sciences in research, as well as in the context of various roles of researchers who can act as teachers, practitioners, and communicators. Open Science is guided by six principles: open methodology; open source code; open data; open access; open review; and open educational resources. Arguments for using open science usually focus on the value of increasing research transparency. Publishing research reports and data in the public domain allows for a thorough peer review. Open science will make science more reproducible and transparent.

Due to the need to combine the research resources of scientific schools in Ukraine and the EU countries, it is important to develop methodological tools for integrating psychological knowledge in order to overcome the negative aspects of its fragmentation. Even now, without waiting for additional instructions, our psychologists can adhere to the FAIR principles in their research, which will significantly increase the degree of integration of Ukrainian psychological science into the EU scientific space. We can also contribute to the development of the theory and methodology of European integration by popularizing and criticizing the research conducted at our institute. In particular, the research carried out under the guidance of G.O. Ball aimed at improving communication technologies in the scientific process and integrating psychological knowledge [1; 3; 5; 8].

Reproducibility in the field of psychological science is increasingly being questioned. This problem has been described as a "reproducibility crisis". In particular, more than half of researchers in the field of psychology were unable to reproduce their own research [12]. Open Science approaches are proposed as one of the ways to increase the reproducibility of work, as well as to prevent data manipulation. Openness enhances the impact of science through the use of digital resources, the promotion of complex issues, innovation and social benefits by supporting and strengthening research activities. The problem of theoretical and methodological integration in psychology is becoming more acute, and its solution requires broad and effective cooperation of scientists from all over the world. Integration can help you overcome a major replication failure crisis. Researchers' response to this reproducibility crisis is the open science and integration of psychological knowledge movements, and both areas can increase

the predictive value of psychological theories and help overcome the crisis.

Conclusions. Consequently, in the continuation and development of the EU, one of the directions of integration of European states is the formation of central organizational structures and basic methodological principles for conducting scientific research. Fragmentation of the European Science and Technology System was identified as a major problem, and attempts were made to create a broader, unified approach to European science policy, connecting National, European and intergovernmental levels. Over the years of functioning of the common scientific space, an organizational, legal and methodological basis for cooperation between researchers of the participating countries has been developed. Entry into this scientific space is associated with the fulfillment of many conditions and active participation of researchers in the work of joint knowledge exchange platforms, permanent and calendar seminars. Integration of psychological research in Ukraine and related practices in ERA and other European structures is not only an organizational challenge, but also provides for solving a number of methodological problems.

BIBLIOGRAPHY:

1. Балл Г.О., Медінцев В.О. Методологічні питання вдосконалення наукової комунікації з використанням сучасних інформаційно-комунікаційних технологій. *Інформаційні технології і засоби навчання*. 2011. № 2 (22). URL: <https://doi.org/10.33407/itlt.v22i2.457>.
2. Бородіна О.А. Освітньо-науковий простір як фактор модернізації економіки України. *Вісник Сумського національного аграрного університету. Серія «Економіка і менеджмент»*. 2021. № 1 (87). С. 10–14
3. Завгородня О.В. Розробка концепції різнорівневої інтеграції психологічного знання. *Психологічний часопис*. Том 6. 2020. № 4. С. 238–247.
4. Залознова Ю.С., Солдак М.О. Міжнародний високотехнологічний кластер як складова сучасної концепції європейської інтеграції до науково-освітнього та інноваційного простору. *Вісник економічної науки України*. 2021. № 2 (41). С. 113–126.
5. Інтегративно-особистісний підхід у психологічній науці та практиці : монографія / Г.О. Балл, Н.А. Бастун, О.В. Губенко ; за ред. Г.О. Балла. Кіровоград : Імекс-ЛТД, 2012. 312 с.
6. Калюжна Т.Г., Самко А.М. Модернізація післядипломної освіти України на шляху до євроінтеграції. *Науковий часопис Національного педагогічного університету імені М.П. Драгоманова. Серія 5 «Педагогічні науки: реалії та перспективи»*. 2022. С. 110–117.
7. Нові програми, Відкрита наука, розвиток дослідницьких інфраструктур: плани МОН у науковій євроінтеграції на 2022 рік. URL: <https://lpnu.ua/news/novi-prohramy-vidkryta-nauka-rozvytok-doslidnytskykh-infrastruktur-planu-mon-u-naukovii>.
8. Медінцев В.О. Проблеми інтеграції психологічного знання, напрямки та ареали її реалізації.

Теоретичні дослідження у психології. Том V. 2018. С. 91–111.

9. Україна приєдналася до країн ЄС, які мають затверджений план реалізації принципів Open Science. 2022. URL: <https://www.kmu.gov.ua/en/news/ukrainapryiednalas-do-krain-ies-shcho-maiut-zatverdzhenyiplan-realizatsii-pryntsypiv-vidkrytoi-nauky>.

10. Шишкіна М.П., Пінчук О.П. Відкрита наука в умовах інтеграції освіти України до європейського дослідницького простору. *Вісник Національної академії педагогічних наук України*. 2023. № 5 (1). С. 1–7. URL: <https://doi.org/10.37472/v.naes.2023.5124>.

11. Щодо інтеграції України до Європейського Союзу у сферах освіти і науки. 05.05 2023. URL: https://www.rada.gov.ua/news/news_kom/236180.html.

12. Baker M. Is there a reproducibility crisis? *Nature*. 2016. № 533. P. 452–454.

13. Council Decision (EU) 2021/764 of 10 May 2021 establishing the Specific Programme implementing Horizon Europe – the Framework Programme for Research and Innovation, and repealing Decision 2013/743/EU (OJ L 167I, 12.5.2021. P. 1–80.

14. European Commission, Directorate-General for Research and Innovation, The new European Research Area, Publications Office of the European Union, 2021. URL: <https://data.europa.eu/doi/10.2777/2736>.

15. The FAIR Guiding Principles for scientific data management and stewardship / M. Wilkinson, M. Dumontier, I. Aalbersberg. *Sci Data* 3, 160018. 2016. URL: <https://doi.org/10.1038/sdata.2016.18>.