

## DEVELOPING THE MECHANISM OF PSYCHOLOGICAL INDUCTION IN MEDICAL STUDENTS

**Yuliia Yevtushenko**

Candidate of Pedagogical Sciences, Associate Professor,  
Associate Professor at the Department of Microbiology, Virology, Immunology,  
Medical Physics, and Medical Informatics,  
State Establishment “Lugansk State Medical University”, Ukraine  
e-mail: julia.evtushenko@ukr.net, orcid.org/0000-0002-7315-3337

### Summary

The article presents a theoretical justification and a conceptual model for developing the mechanism of psychological induction in medical students as an effective means of fostering professional identity, emotional competence, and ethical culture in future physicians. The relevance of the study is driven by the growing significance of affective and value-based components in medical education, as well as the insufficient theoretical and pedagogical exploration of the phenomenon of psychological induction. The article aims to design a conceptual model of psychological induction, define its structural components, identify pedagogical conditions for its implementation, and outline the expected outcomes. The research methodological framework is grounded in systemic, competency-based, and humanistic approaches, as well as concepts of social learning, reflective pedagogy, and narrative medicine. The proposed model integrates four interrelated components (cognitive, emotional, behavioral, and reflective), which enable profound value-emotional transformation during students' professional formation. The article defines key pedagogical conditions that support the model's effectiveness: a safe educational environment, a person-centered and humanistic teaching style, emotionally rich instructional methods, development of reflexivity, and the creation of moral choice situations. Strategies for implementing the model into educational practice are proposed, including integration into academic disciplines and modules, redesigning pedagogical interactions, faculty training, and methodological support. Expected outcomes of the model's application are outlined, and potential limitations are identified. Prospects for further research involve empirical validation of the model's effectiveness and its adaptation to various educational contexts in medical training.

**Key words:** psychological induction, professional identity, emotional competence, medical education, ethical culture, model, pedagogical conditions.

DOI <https://doi.org/10.23856/7012>

### 1. Introduction

In today's world, where clinical practice is increasingly accompanied by high emotional strain, ethical dilemmas, and a heightened risk of professional burnout, the development of emotional maturity, empathy, and inner resilience in future physicians has become particularly critical. Medical education can no longer be confined to the transmission of knowledge and technical skills alone; it must foster the holistic development of the individual, encompassing ethical orientation, the capacity for self-reflection, and readiness for humanistic engagement with patients (*Entertainment News*, 2024; *Utiuzh et al.*, 2021; *Yasin et al.*, 2020; *Perrigault & Greco*, 2022; *DeFoor et al.*, 2020).

The growing emphasis on the humanization of medical education necessitates the search for effective pedagogical mechanisms that facilitate not only cognitive assimilation but also the student's emotional and value-based immersion into the professional context (*Andersson et al., 2022; Alharbi, 2025; Aghabarary & Khedmatizare, 2025*). One such underexplored yet promising mechanism is psychological induction – a process of indirect emotional and value-oriented influence that emerges within educational interactions and fosters a deep identification with the medical profession.

Despite growing interest in the emotional competence of future healthcare professionals, the systemic implementation of psychological induction in educational settings remains insufficiently developed. The structure of this mechanism, its core components, and the pedagogical conditions for its realization have not been clearly defined, which limits its practical application in institutions of higher medical education. In this context, it is essential to conceptualize psychological induction through the lens of contemporary pedagogical and interdisciplinary approaches. A more detailed analysis of the academic literature allows for the clarification of the theoretical foundations of this phenomenon and the identification of existing scholarly gaps that require further exploration.

**Purpose** – to theoretically substantiate and develop a model for the formation of the psychological induction mechanism in medical students as a means of fostering their professional identity, emotional maturity, and ethical responsibility.

**Research objectives:**

- to analyze the current state of scholarly research on the problem of psychological induction in higher education, particularly in the context of training future physicians;
- to identify the theoretical foundations underlying the functioning of the psychological induction mechanism (including psychological, pedagogical, and interdisciplinary approaches);
- to develop an original model for the formation of the psychological induction mechanism in medical students;
- to determine the pedagogical conditions for implementing this model within the educational process of higher medical institutions;
- to systematize the expected outcomes of the model's implementation and outline prospects for its further empirical investigation.

## 2. Main part

**Analysis of current research.** Contemporary psychological and pedagogical sciences increasingly focus on the development of emotional competence, professional identity, and a humanistic orientation in future physicians. These aspects are viewed as key prerequisites not only for high-quality professional training but also for students' psycho-emotional resilience in the challenging environment of clinical practice.

Several researchers emphasize the humanistic dimension of the educational process, which should foster the value-based development of the future physician's personality. For example, O. Zadorozhna highlights the role of the university environment as a determinant in the formation of humanistic values, while O. Isaeva and M. Shumylo view the humanization of education as a core condition for the moral development of medical professionals (*Zadorozhna, 2024; Isaeva & Shumylo, 2024*). Both perspectives emphasize the importance of emotional engagement in educational interactions, although with different emphases: the former at the institutional level, and the latter at the personal level. A different perspective is offered by O. Lazurenko and N. Smila, who examine professional formation through the lens

of psychological support and the integration of psycho-emotional mechanisms into the learning process (*Lazurenko & Smila, 2024*). Their approach emphasizes not only humanistic but also competency-based foundations, framing student support as a deliberate pedagogical instrument.

The issue of professional identity is also explored by N. Didyk and colleagues, who focus on emotional stability as a key factor in effective self-determination within pre-tertiary education (*Didyk et al., 2023*). In this context, it is worth mentioning O. Kraieva and N. Romanenko, who underline the dynamic nature of identity as shaped by social transformations. This approach broadens the understanding of identity as both an individual and a sociocultural phenomenon (*Kraieva & Romanenko, 2019*).

Theoretical foundations for understanding professional identity as a structured construct are outlined in the work of H. Prib and L. Begeza. Unlike earlier authors, they propose a conceptual model of the identity formation process, allowing it to be treated as an object of pedagogical modeling (*Prib & Begeza, 2020*). N. Tertychna adds to this spectrum by drawing attention to the development of professionally significant qualities, such as stress resistance, moral responsibility, and self-regulation, all of which are closely associated with a specialist's psychological resilience (*Tertychna, 2021*).

In the context of current challenges, especially the full-scale war, the research by A. Shulhai and co-authors is particularly valuable. They investigate emotional burnout syndrome in medical students, identifying several critical factors, including a lack of psychological support and general overload, that significantly reduce young people's capacity for emotional self-regulation (*Shulhai et al., 2023*).

A growing interest in the humanistic transformation of medical education is also evident in international academic discourse. Issues such as professional identity, emotional competence, and ethical resilience are recognized as essential elements in training modern physicians amid the increasing complexity of interpersonal and systemic challenges. For instance, S. Post et al. propose a three-component taxonomy of virtues and character traits as the foundation for developing a physician's professional identity. Unlike approaches that focus solely on functional competencies, the authors emphasize the role of moral character and psychological stability as the foundation of ethical medical reasoning (*Post et al., 2024*).

Another significant trend is the integration of social-emotional learning and a meaningful reconsideration of the role of interpersonal interaction. Johnsen JK and colleagues investigate the experience of dental students with emotional learning through storytelling. Their findings highlight the effectiveness of emotionally oriented methodologies in fostering empathy, self-reflection, and ethical decision-making under pressure (*Johnsen et al., 2023*).

Emotional adaptation and social inclusion are examined by Liu and co-authors, who focus on the relationship between social-emotional competence, self-esteem, and overall adaptability among students. These findings are of practical significance for understanding psychological induction as a mechanism of integration into the professional environment (*Liu et al., 2023*).

Significant attention in international literature is also devoted to the institutional conditions for developing professional resilience. For instance, Abbasi Abianeh and colleagues outline global trends in the transformation of higher medical education, emphasizing humanization, digitalization, and social responsibility as key priorities for future development (*Abbasi Abianeh et al., 2022*).

In the domain of specialized emotional training for medical professionals working in crisis settings, particularly in disaster contexts, Kasselmann et al. stress the need for well-structured psychological modules (*Kasselmann et al., 2021*). Similar conclusions are drawn by Olsson S. and collaborators, who analyze Sweden's experience with integrating disaster medicine

into core medical curricula (Olsson *et al.*, 2025). Both studies underscore that emotional competence and psychological preparedness must be embedded not only in communication-related but also in functional components of medical education.

Thus, both national and international research highlight essential aspects of humanization, emotional competence, and professional development in the training of future physicians. At the same time, the concept of psychological induction as an integrated pedagogical mechanism remains underdefined and is scarcely represented in theoretical models. There is a lack of conceptual frameworks that describe the mechanism of its formation, the pedagogical conditions for its implementation, or the strategies for integrating it into educational practice. This creates a clear scholarly gap that the present study aims to address.

**Results and discussion.** The concept of psychological induction has an interdisciplinary origin, situated at the intersection of psychology, pedagogy, sociology, and professional education. In classical psychology, it is understood as the process by which an emotional state, value orientation, or behavioral pattern is transmitted from one individual to another through interpersonal interaction (daSilva & Wood, 2024). Foundational contributions by L. Vygotsky, A. Bandura, and G. Allport explored phenomena such as behavioral modeling, social contagion, and imitation, which laid the theoretical groundwork for contemporary understandings of induction as a form of subtle influence achieved through shared emotional experience and reflection (Vygotsky, 1978; Bandura, 1977; Allport, 1954).

In pedagogical discourse, psychological induction is understood as an indirect form of influence, manifested through emotionally enriched interactions between participants in the educational process. It activates deep personal mechanisms such as reflection, empathy, and moral engagement, and goes beyond the transmission of knowledge to involve emotional and value-laden immersion (daSilva & Wood, 2024; Delgado Bolton & García Luna, 2025).

Recent studies emphasize the growing importance of the affective dimension in education, especially in human-centered professions such as medicine. Emotional involvement, empathy, and the ability to make ethical judgments are seen as the results not only of cognitive development but also of inductive influence. In medical education, psychological induction is particularly relevant, as students operate in a context of elevated emotional intensity, responsibility, and uncertainty – factors that create a natural environment for activating the inductive mechanism (Zary *et al.*, 2024; Hooker *et al.*, 2023; Çırak *et al.*, 2025; Ruitenberg & Kumagai, 2024).

Unlike emotional contagion, which is impulsive and unconscious, psychological induction involves the conscious internalization of values and meanings transmitted through modeled behavior, narratives, role-based interactions, and clinical case analysis. It is implemented not so much through instruction as through example, engagement, and the educator's presence as a carrier of professional ethics (Delgado Bolton & García Luna, 2025; Aghamohammadi-Kalkhoran *et al.*, 2025; Carey & Grant, 2022).

In the pedagogical context, psychological induction serves as a systemic mechanism of transformation, integrating emotional interaction with reflection and behavioral practice. This mechanism is especially effective in the training of future physicians, as it enables the transformation of learning situations into experiences of moral growth, supports the formation of an internalized professional identity, and fosters ethically motivated reasoning.

In summary, psychological induction in education is a complex, interdisciplinary phenomenon that operates at the intersection of cognitive, emotional, behavioral, and reflective domains. Within medical education, it holds particular significance by enabling not only the adoption of humanistic values but also their deep integration into the student's personality

through educational interaction. This, in turn, necessitates the development of a structured model that reflects the mechanisms, conditions, and pedagogical potential of psychological induction.

The modern system of medical education reveals a noticeable imbalance between students' high academic performance and their insufficient psychological maturity, emotional competence, and ethical-value-based self-reflection. Despite the inclusion of courses in medical ethics and deontology, most educational programs remain focused on the declarative assimilation of humanistic norms rather than their deep integration into the student's structure.

In response to this challenge, a model was developed to explain the formation of the psychological induction mechanism, which is interpreted as a tool for profound emotional and value-based transformation in medical students. The model is grounded in an interdisciplinary methodological framework, including the systems approach (*Ludwig von Bertalanffy, 1968*), humanistic pedagogy (*Rogers, 1961; Korczak, 2018*), social learning theory (*Bandura, 1977*), and reflective psychology (*Schön, 1983; Mitchell*).

The model comprises four interrelated components that form a unified and dynamic structure of psychological induction:

- *Cognitive component* – involves the awareness of professional values, ethical norms, and typical clinical situations involving moral choice. It is activated through case analysis, micro-scenarios, and professional dilemmas.

- *Emotional component* – fosters emotional responsiveness to situations that evoke empathy and compassion. It is implemented through narrative medicine, viewing and discussing film clips, and examining complex clinical stories.

- *Behavioral component* – reinforces humanistic behavioral models in real or simulated contexts. It is facilitated through role-playing, simulation-based learning, and professional training exercises.

- *Reflective component* – involves processing acquired emotional and behavioral experiences and shaping the physician's internal identity. It is developed through reflection journals, student portfolios, and group discussions on ethics.

- The model is based on the principles of:

- *Holism*, ensuring the interconnectedness of cognitive, emotional, behavioral, and reflective components;

- *Dynamism*, allowing for the flexible activation of components depending on the pedagogical context;

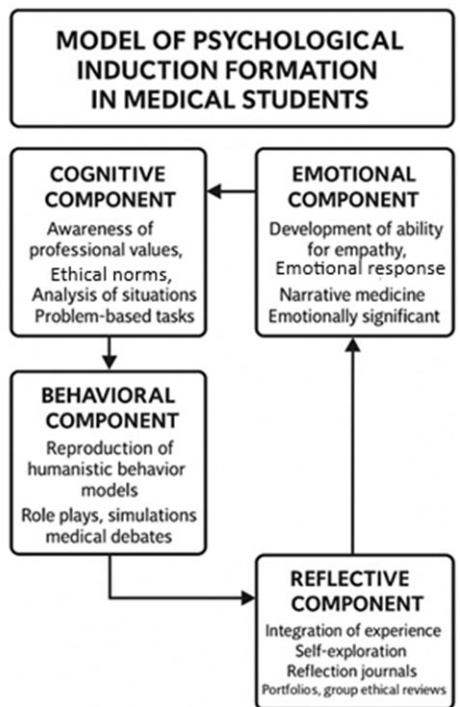
- *Ecological validity*, ensuring respect for the student's personal space, avoiding coercion, and promoting gentle ethical influence;

- *Variability*, enabling adaptation to the content and format of the educational interaction.

The model's structure is illustrated in the figure below (Fig. 1).

The presented model illustrates the cyclical nature of psychological induction: cognitive comprehension forms the foundation for emotional engagement; emotional responses transform into behavioral reactions; and behavior, through reflection, is consolidated at a new level of professional consciousness. Thus, the model functions as a self-reinforcing system of internal personal growth.

Its distinctive feature is openness to variability: components can be activated in different sequences depending on content, pedagogical objectives, and interaction context. This structure enables the effective implementation of models in both traditional classroom training and simulation-based, multidisciplinary, or interprofessional learning formats.



**Fig. 1. Model of psychological induction mechanism formation in medical students**

Effective implementation of the psychological induction mechanism in the educational process requires creating a comprehensive pedagogical environment that fosters students' emotional engagement, develops empathy, promotes reflective thinking, and encourages internal acceptance of professional values. The determination of pedagogical conditions is based on the analysis of contemporary theoretical approaches to developing emotional competence, reflective thinking, and professional identity (Abbasi Abianeh et al., 2022; Liu et al., 2023; Johnsen et al., 2023), as well as on humanistic learning principles recognized as effective in medical education (Post et al., 2024; Delgado Bolton & García Luna, 2025).

We identify the following key pedagogical conditions that facilitate the activation of the psychological induction mechanism:

1. *Ensuring a safe and emotionally supportive environment.* The presence of a psychologically comfortable space where students are not afraid of making mistakes promotes the revelation of their emotional potential and openness to inductive influence. A safe environment serves as a prerequisite for reflective immersion in ethical dilemmas, the formation of empathetic attitudes toward patients and colleagues.
2. *Person-centered humanistic style of pedagogical interaction.* The figure of the instructor as a moral authority and model of ethical behavior plays a key role in triggering induction. The instructor's involvement, sincerity in communication, and readiness for dialogue create conditions for transmitting values not through instruction, but through example. Consequently, pedagogical influence becomes emotionally significant and is accepted at a profound level.



3. *Application of emotionally rich teaching methods.* Psychological induction is activated through methods that evoke emotional resonance and stimulate internal identification with the professional role. These include:

- narrative medicine (analysis of patient stories, autobiographical narratives);
- viewing and analyzing film excerpts depicting morally complex clinical situations;
- role-playing games and simulation cases modeling ethical decision-making situations;
- inductive essays in which students contemplate their position in the context of ethical dilemmas.

4. *Creating situations of moral choice and ethical reflection.* Induction is strengthened when the learning process includes situations where students must not only acquire knowledge but also make personal decisions and contemplate their consequences. Ethical case analyses, group reflection, and clinical ethics discussions promote the internalization of values and transformation of attitudes.

5. *Stimulating reflective culture.* Psychological induction involves not only emotional immersion but also an understanding of the experience. The development of reflectivity is ensured through observation journals, portfolios, essays, and small-group discussions. This allows for the integration of induced values into the student's belief system.

6. *Engaging students in emotionally significant educational events.* Effective student participation in activities that require not only intellectual but also moral response: meetings with patients, volunteer practices, debates, and intervision groups. Such engagement forms the practice of ethical sensitivity and social responsibility.

The pedagogical conditions for implementing the psychological induction model should be directed not only toward changing students' behavioral reactions but primarily toward creating space for emotional experiences, moral choices, and personal identification with the profession. This extends the preparation of future physicians beyond formal education into the realm of profound internal growth.

Successful implementation of the psychological induction model in the educational process requires not only the creation of appropriate pedagogical conditions but also a structured implementation strategy that ensures its systematic nature, phased approach, and pedagogical integrity. This involves integrating the model into various aspects of content, forms, methods, and the organization of learning, which will allow students to develop not only professional knowledge but also a deep emotional and ethical engagement with their future profession.

Because of this, we propose the following strategic steps for implementing the psychological induction model in medical student training:

1. *Integration of the model into the humanities and clinical cycle disciplines.* Model components can be logically embedded into the content of disciplines oriented toward forming ethical thinking and professional responsibility, specifically: "Fundamentals of Medical Ethics," "Psychology," "Palliative Care," and "Introduction to Clinical Medicine." This approach promotes not only knowledge acquisition but also the formation of internal professional identity based on empathy, compassion, and moral self-determination.

2. *Using the model as a foundation for interdisciplinary modules.* The model should be implemented in the format of comprehensive educational modules that combine clinical situations, ethical cases, simulation training, role-playing exercises, and reflective practices. For example, the module "Physician and Patient: Communication, Responsibility, Trust" can serve as a platform for students to engage in deep immersion into complex emotional and ethical scenarios, followed by reflection.

3. *Redesigning learning scenarios and educational interaction.* The model involves transitioning from a reproductive teaching style to creating situations of moral choice, emotional

resonance, and behavioral identification. It is recommended to prioritize small-group work formats, facilitation methods, discussion, and problem-oriented technologies that activate not only cognitive but also emotional student engagement.

4. *Preparing instructors as key carriers of inductive influence.* One of the key conditions for successful implementation is the development of professional-ethical, emotional, and facilitative competencies in educators. The instructor should serve not only as a knowledge transmitter but primarily as an example of humanistic interaction, a source of empathetic influence, and reflective support for students.

5. *Creating methodological support for model implementation.* Effective model implementation requires developing appropriate educational-methodological tools, including case banks with ethical situations, reflective analysis algorithms, simulation scenarios, instructions for writing inductive essays, sets of reflection questions, and materials for organizing small-group analyses.

Thus, the proposed strategy involves a comprehensive and systematic embedding of the psychological induction model into the organization of the educational process in medical institutions of higher education. Its implementation allows not only to activate deep psychological mechanisms of ethical development in future physicians but also to create a foundation for forming a humanistically oriented professional identity under conditions of high emotional demands in the clinical environment.

The practical implementation of the model should be deployed in stages, from pilot testing on individual disciplines to gradual integration into interdisciplinary modules and mentorship systems. It is expected that the leading effectiveness indicators will be increased levels of student reflectivity, development of empathy, ability for ethical analysis of situations, as well as a reduction in manifestations of emotional burnout. Despite potential barriers (notably, the need for faculty professional development and institutional support for changes), the proposed model has a high degree of adaptability to various educational contexts of medical training.

Implementing the model for forming the psychological induction mechanism in medical students involves achieving comprehensive results that encompass the cognitive, emotional, reflective, and behavioral aspects of the future physician's personality. Unlike traditional knowledge acquisition, this involves a profound transformation of internal beliefs, ethical orientations, emotional sensitivity, and self-reflection of the future physician.

Taking into account the component structure of the model, expected results can be systematized in a correspondence table between each component and target effects (Table 1).

Table 1

**Expected Outcomes by Model Components**

Model component	Expected outcomes / Effects
Cognitive	Awareness of ethical norms; understanding the role of humanistic values in medicine; ability to analyze clinical situations involving moral choices
Emotional	Development of empathy, capacity for compassion, emotional engagement in patient interaction, and ability to recognize others' emotions
Behavioral	Reproduction of humanistic behavioral models; improvement of communication strategies; development of partnership-based interaction
Reflective	Ability for self-observation; reflection on one's actions; formation of professional identity; reduction of professional burnout risk



All components interact with each other, forming a dynamic system in which cognitive comprehension promotes emotional engagement, emotional experiences transition into behavioral reactions, and through reflection, these influences are integrated into the personal structure of the future physician. This approach enables not only pedagogical but also profound professional and ethical effects, which have direct significance for the quality of clinical thinking, patient interaction, teamwork, and psychological resilience in professional activity.

Thus, the psychological induction model aims to form a holistic, empathetically mature, and ethically motivated professional personality capable of acting under conditions of high moral responsibility, emotional tension, and the human complexity inherent in contemporary medical practice.

The proposed model for forming the psychological induction mechanism in medical students has several advantages that determine its innovative potential in the educational process. Its interdisciplinary nature ensures the combination of concepts from psychology, pedagogy, medical ethics, and professional identity theory. At the same time, the model's structure is holistic, as it synchronizes cognitive, emotional, behavioral, and reflective components, allowing for a comprehensive influence on the formation of an ethically mature physician's personality.

The emphasis on emotional experience and reflection, which promotes deeper internal assimilation of professional values, represents a particular value. The model demonstrates high adaptability, as it can be implemented in various educational formats, ranging from traditional classes to simulation scenarios. Special attention should be given to its preventive potential, as the activation of reflective thinking and the development of emotional competence create conditions for reducing the risk of professional burnout among future physicians.

However, implementing the model requires overcoming several challenges. First, the practical realization of the inductive mechanism is possible only under conditions of high professional readiness of the instructor, specifically, their emotional maturity, ability to provide reflective support to students, and skill in facilitating moral-ethical discussions. Second, model implementation requires a supportive educational environment that maintains humanistic practices, interdisciplinary interaction, and pedagogical flexibility. Under conditions of academic overload or administrative inertia, such conditions may not always be ensured. Additionally, the personal changes envisaged by the model are difficult to measure quantitatively in a short-term format, which complicates the evaluation of its effectiveness using standard instruments.

Despite the outlined barriers, the model has a high degree of adaptability and can be effectively integrated into various medical education contexts provided there is methodological support, qualified faculty guidance, and institutional openness to pedagogical innovations.

### 3. Conclusion

The conducted research enabled the conceptualization of psychological induction as a crucial mechanism for shaping the professional identity and ethical culture of future physicians. The proposed model is based on the coordinated interaction of four components (cognitive, emotional, behavioral, and reflective) and reflects the dynamics of personal growth of medical students in an emotionally rich educational environment.

The model functions as a pedagogically guided process of value transformation that allows not only the assimilation of humanistic orientations but also their integration into the future physician's professional "self". Of particular significance are emotional engagement, reflective comprehension of experience, and the instructor's example as a carrier of professional ethics, as factors that activate inductive influence.

The expected results presented in the article demonstrate the model's potential as a tool for developing empathy, moral resilience, professional maturity, and psychological self-regulation in students. At the same time, pedagogical conditions and implementation strategies have been analyzed, paving the way for the practical application of the model in higher medical education.

**Prospects for further research** include the empirical verification of the proposed model's effectiveness, the development of quantitative and qualitative assessment methodologies for its results, and its adaptation to different stages of specialist training in the field of medicine. Particular attention should be given to studying the impact of psychological induction on preventing professional burnout, forming team ethics, and developing clinical thinking.

## References

1. Didyk, N., Rudenok, A., & Mykhailyk, A. (2023). *Psykhologichni osoblyvosti formuvannia profesiinoi identychnosti maibutnikh medychnykh fakhivtsiv v zakladakh fakhovoi peredyvshchoi osvity* [Psychological features of the formation of professional identity of future medical specialists in higher education institutions]. *Naukovi pratsi Mizhrehionalnoi Akademii upravlinnia personalom. Psykholohiia – Scientific works of the Interregional Academy of Personnel Management. Psychology*, 3(59), 5–11. <https://doi.org/10.32689/maup.psych.2023.3.1> [in Ukrainian].
2. *Empatiia v medychnii praktytsi: chomu vazhlyvo zrozumity patsiienta* [Empathy in medical practice: why it is important to understand the patient]. (n.d.). Entertainment News. Retrieved from: <https://entertainment.v.ua/raznoe/empatiya-v-medichnii-praktici-chomu-vazhlyvo-zrozumiti-pacyienta/> [in Ukrainian].
3. Zadorozhna, O. (2024). *Rol osvithnoho seredovyshcha universytetu v formuvanni humanistychnykh tsinnosti u studentiv-medykiv* [The role of the university educational environment in shaping humanistic values among medical students]. *Aktualni pytannia humanitarnykh nauk – Current issues in the humanities*, 77(1), 283–287. DOI: <https://doi.org/10.24919/2308-4863/77-1-40> [in Ukrainian].
4. Isaieva, O., & Shumylo, M. (2024). *Humanistychna spriamovanist osvithnoho protsesu studentiv-medykiv* [Humanistic orientation of the educational process for medical students]. *Molod i rynek – Youth and Market*, 12(232), 12–15. DOI: <https://doi.org/10.24919/2308-4634.2024.316550> [in Ukrainian].
5. Kraieva, O.A., & Romanenko, N.V. (2019). *Psykhologichni osoblyvosti stanu profesiinoi identychnosti medychnykh pratsivnykiv pid chas transformatsiinykh zmin suspilstva* [Psychological features of the state of professional identity of medical workers during transformational changes in society]. *Aktualni problemy psykhologii: Zbirnyk naukovykh prats Instytutu psykhologii imeni H. S. Kostiuka NAPN Ukrainy – Current Issues in Psychology: Collection of Scientific Papers of the H. S. Kostiuk Institute of Psychology of the National Academy of Pedagogical Sciences of Ukraine*, 14(2), 199–210. [in Ukrainian].
6. Lazurenko, O.O., & Smila, N.V. (2024). *Psykhologichni suprovid profesiinoho stanovlennia likaria yak skladova kompetentnisnoho pidkhodu v medychnii osviti* [Psychological support of the professional development of a doctor as a component of the competency-based approach in medical education]. *Naukovi zapysky. Serii: Psykholohiia – Scholarly Notes. Series: Psychology*, 1, 88–95. DOI: <https://doi.org/10.32782/cusu-psy-2024-1-12> [in Ukrainian].
7. Prib, H.A., & Begeza, L.Ye. (2020). *Teoretychne pidhruntia modeli profesiinoi identychnosti osobystosti* [Theoretical foundations of the model of personal professional identity]. *Problemy suchasnoi psykhologii – Problems of Modern Psychology*, 1(17), 95–100 [in Ukrainian].

8. Tertychna, N.A. (2021). *Kharakterystyky ta stanovlennia profesiino znachushchykh yakostei u studentiv-medykiv* [Characteristics and development of professionally significant qualities in medical students]. *Science and Society, Patterns and Trends of Development*, 16, 212–215 [in Ukrainian].
9. Ut'iuzh, I.H., & Mehrelishvili, M.O. (2021). *Etychni problemy v medytsyni* [Ethical problems in medicine]. *ZDMU* [in Ukrainian].
10. Shulhai, A.H., Fedchyshyn, N.O., & Shulhai, O.M. (2023). *Syndrom vyhorannia studentiv-medykiv pid chas viiny ta chynnyky, yaki yoho vyznachaiut* [Burnout syndrome in medical students during the war and the factors that determine it]. *Medychna osvita – Medical Education*, 3, 104–111. DOI: <https://doi.org/10.11603/m.2414-5998.2023.3.14276> [in Ukrainian].
11. Abbasi Abianeh, N., Yazdani, S., Heydari, M., & Akbari Farmad, S. (2022). *Global perspectives on trends in health higher education*. *Journal of Family Medicine and Primary Care*, 11(9), 4991–003. DOI: 10.4103/jfmpc.jfmpc\_2461\_21 [in English].
12. Aghabarary, M., & Khedmatizare, M. (2025). *Emotional intelligence as a predictor of clinical competence in nursing students*. *BMC Research Notes*, 18, 25–32. DOI: 10.1186/s13104-025-07106-5 [in English].
13. Aghamohammadi-Kalkhoran, M., Karimi, Z., & Mohebbi, Z. (2025). *Qualitative insights into empathy in medical education: A content analysis*. *BMC Medical Education*, 25, 6882. DOI: 10.1186/s12909-025-06882-9 [in English].
14. Alharbi, K. (2025). *Exploring the power of emotional intelligence: a comprehensive evaluation of its impact on the clinical competence of nursing students*. *BMC Nursing*, 24, 536–544. DOI: 10.1186/s12912-025-03136-3 [in English].
15. Allport, G.W. (1954). *The Nature of Prejudice*. Reading (MA) : Addison-Wesley [in English].
16. Andersson, H, Svensson, A, Frank, C, Rantala, A, Holmberg, M, & Bremer, A. (2022). *Ethics education to support ethical competence learning in healthcare: an integrative systematic review*. *BMC Medical Ethics*, 23(1), 29–55. DOI: 10.1186/s12910-022-00766-z [in English].
17. Bandura, A. (1977). *Social Learning Theory*. Englewood Cliffs (NJ) : Prentice-Hall [in English].
18. Bertalanffy, L. von (1968). *General System Theory: Foundations, Development, Applications*. New York : George Braziller [in English].
19. Carey, M., & Grant, B. (2022). *Compassionate pedagogy: Principles and methods for allied health education*. *Journal of University Teaching & Learning Practice*, 19(2), Article 6. Retrieved from <https://open-publishing.org/journals/index.php/jutlp/article/view/1219> [in English].
20. Çırak, M., Karaca, A., & Avcı, K. (2025). *Examining the empathy levels of medical students using CHAID analysis*. *BMC Medical Education*, 25, 7296. DOI: 10.1186/s12909-025-07296-3. [in English].
21. daSilva, A., & Wood, A. (2024). *How Emotion Contagion Changes as Strangers Become Acquainted*. *Collabra: Psychology*, 11(1), 136874. DOI: 10.1525/collabra.136874 [in English].
22. DeFoor, M. T., Chung, Y., Zadinsky, J. K., Dowling, J., & Sams, R. W. II. (2020). *An interprofessional cohort analysis of student interest in medical ethics education: a survey-based quantitative study*. *BMC Medical Ethics*, 21, 26–35. <https://doi.org/10.1186/s12910-020-00468-4> [in English].
23. Delgado Bolton, R.C., & García Luna, Á. (2025). *Could empathy be taught? The role of advanced technologies to improve empathy in medical students*. *Journal of Medical Systems*, 49(2), 144. DOI: 10.1007/s10916-025-02144-9 [in English].

24. Hooker, C., Molloy, E., & Thomson, C. (2023). Co-producing an empathy-focused medical curriculum with patients, educators, and students. *The Clinical Teacher*, 20(2), e70100. DOI: 10.1111/tct.70100 [in English].
25. Johnsen, J.K., Borit, M., & Stangvaltaite-Mouhat, L. (2023). Using storytelling in undergraduate dental education: Students' experiences of emotional competence training. *European Journal of Dental Education*, 27(4), 793–801. DOI: 10.1111/eje.12868 [in English].
26. Kasselmann, N., Willy, C., Domres, B.D., Wunderlich, R., & Back, D.A. (2021). Implementation of disaster medicine education in German medical schools – a nationwide survey. *GMS Journal for Medical Education*, 38(4), Doc79. Retrieved from <https://www.egms.de/en/journals/zma/2021-38/zma001489.shtml> [in English].
27. Korczak, J. (2018). *How to Love a Child and Other Selected Works (Volume 1)*. London : Valentine Mitchell [in English].
28. Liu, Y., Feng, Q., Tong, Y., & Guo, K. (2023). Effect of physical exercise on social adaptability of college students: Chain intermediary effect of social-emotional competency and self-esteem. *Frontiers in Psychology*, 14, 1120925–1120935. DOI: 10.3389/fpsyg.2023.1120925 [in English].
29. Mitchell, L. Publications list. University of Waikato. Retrieved from <https://profiles.waikato.ac.nz/linda.mitchell/publications> [in English].
30. Olsson, S., Kurland, L., Taube, F., Björås, J., & Robinson, Y. (2025). Disaster medicine in Swedish undergraduate medical education: analysing current programs and future integration in the six-year curriculum. *BMC Medical Education*, 25, 731–741. DOI: 10.1186/s12909-025-07324-2 [in English].
31. Perrigault, P.F., & Greco, F. (2022). Ethical issues in neurocritical care. *Revue Neurologique (Paris)*, 178(1–2), 57–63. DOI: 10.1016/j.neurol.2021.12.006 [in English].
32. Post, S.G., Basile, M.A., Iuli, R.J., Migdal, P., Trilling, J.S., Wackett, A., & Strano-Paul, L.A. (2024). Tripartite taxonomy of character strengths & virtues: toward professional identity formation in medical students & physicians. *BMC Medical Education*, 24, 1220–1228. DOI: 10.1186/s12909-024-06169-5 [in English].
33. Rogers, C.R. (1961). *On Becoming a Person: A Therapist's View of Psychotherapy*. Boston : Houghton Mifflin [in English].
34. Ruitenberg, C.W., & Kumagai, A.K. (2024). Adopting a pedagogy of connection for medical education. *Perspectives on Medical Education*, 13(1), 56–62. DOI: 10.1007/s40037-024-00832-7 [in English].
35. Schön, D.A. (1983). *The Reflective Practitioner: How Professionals Think in Action*. New York : Basic Books [in English].
36. Vygotsky, L.S. (1978). *Mind in Society: The Development of Higher Psychological Processes*. Cambridge (MA) : Harvard University Press [in English].
37. Yasin, J.C.M., Barlem, E.L.D., Barlem, J.G.T., Silveira, R.S.D., Dalmolin, G.L., & Andrade, G.B. (2020). The ethical dimension of problems faced in general medicine: relationship with moral sensitivity. *Revista Latino-Americana de Enfermagem*, 28, e3309. DOI: 10.1590/1518-8345.4033.3309 [in English].
38. Zary, N., Berman, N.B., Holmboe, E.S. (2024). Enhancing empathy in medical students through virtual patients: A scoping review. *Medical Education Online*, 29(1), 11871709. DOI: 10.1080/10872981.2024.11871709 [in English].