Exploring the Development of Inclusive Competence in Future Socionomy Specialists: Psychological and Educational Challenges in Constrained Settings

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ABSTRACT

BACKGROUND

The relevance of the study is determined by the need to prepare future specialists for professional activity in inclusive environments and to identify factors contributing to the development of their competence. Understanding the psychological and pedagogical features of training socionomic specialists under limited conditions is essential for ensuring their readiness to work with diverse populations.

METHODS

We conducted a cross-sectional survey of bachelor's and master's students in socionomic programs (n = 50) using validated instruments: Teacher Attitudes to Inclusion Scale (TAISA), Connor–Davidson Resilience Scale (CD-RISC-25), a Mehrabian–Epstein-based emotional empathy scale (adapted version), a tolerance of uncertainty measure (adapted from Budner), and a 30-item knowledge test on inclusive education. Internal consistencies (Cronbach's α) were calculated for each instrument in the present sample. Group contrasts (3rd- vs 5th-year) were tested using t-tests/ANOVA with effect sizes (Hedges' g) and 95% CIs.

RESULTS

The findings revealed key components in forming inclusive competence, including awareness of the concept of inclusion and inclusive education, readiness to work in an inclusive environment, acceptance of children with special needs, tolerance, empathy, and motivation for self-development. Fifth-year students showed substantially higher resilience than third-year peers, alongside more favourable attitudes to inclusion and higher empathy and tolerance indices. The results also highlighted the significant influence of contemporary challenges – such as military aggression, the COVID-19 pandemic, socio-economic inequality, technological change, and demographic shifts – on the development of these competences. Identified factors contributing to inclusive competence include positive attitudes to inclusion, empathy training, knowledge of inclusive education methods, availability of support and counseling, creation of barrier-free environments, openness to innovation, resilience, and preparation for limited conditions.

CONCLUSION

The study establishes the psychological and pedagogical features of forming inclusive competence in future socionomic specialists under restricted conditions. The results provide both theoretical insights and practical recommendations for improving the training of future professionals in the socionomic sphere, emphasizing the importance of resilience, empathy, and adaptability. These findings may serve as a basis for enhancing educational strategies to strengthen the inclusive competence of future specialists.

Keywords: Inclusive competence development, Socionomic specialist training, Psychological-pedagogical determinants, Constrained educational environments, resilience and empathy building

Highlights

- Integrative and inclusive competences are crucial for socionomic specialists facing global and local challenges.
- Key factors: understanding inclusion, positive attitudes, empathy, inclusive methods, resilience, and adaptability.
- Many future professionals show insufficient readiness for inclusive environments, requiring targeted training.
- Crises (pandemic, war) reveal both barriers and opportunities for distance inclusive education.
- Resilience, empathy, self-development, and professional interaction are essential for effective competence building.

Introduction

Today, in Ukraine, there is a trend aimed at improving the quality of life of people with special needs, particularly in providing educational services by the state. Inclusion is a full-scale process that requires the involvement of all segments of society, from the formation of the relevant legislation at the level of public administration to the creation of mechanisms to influence public understanding of the problems of children with special educational needs and to ensure conditions at the local level for education in mainstream schools and barrier-free environments.[1,2]

Educational services should be provided by highly qualified staff who clearly understand the needs of such children.[3,4] The complexity of socionomic processes and the diversity of cultural and social contexts require professionals to interact effectively with different groups of people and engage them in different areas of activity.

For effective inclusive education, it is necessary to form and continuously develop the inclusive competence of socionomic professionals. The development of

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Consent: All participants in this study took part on a voluntary basis. Prior to data collection, they were informed about the purpose, procedures, and conditions of the research. Informed consent was obtained from all participants, who were assured of anonymity, confidentiality of their responses, and the right to withdraw from the study at any time without any consequences

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inclusive competence is significant in light of current challenges and constraints. Circumstances such as global economic crises, demographic changes, technological breakthroughs, socio-cultural transformations, wars, famines and natural disasters (earthquakes, hurricanes, and floods) require professionals to be flexible in their thinking, adapt quickly to new conditions, and engage diverse groups of people in their work.[5] Thus, being in a limited environment due to the COVID-19 pandemic and military aggression, teachers had to change the forms of the educational process to switch to distance learning. This required mastering new information technologies.

In the context of the development of information and telecommunication technologies, the issue of training future socionomic research and teaching staff is particularly acute. Given this, there is an urgent need in higher education institutions to create conditions for the formation of professional competence, increase the requirements for teachers' responsibility for the results of professional activities, and improve procedures for assessing the level of professional competence of academic staff.[6,7] In addition, the importance of psychological support for the development of emotional, and interpersonal skills in the formation of inclusive competence was noted.[8–10]

Despite the research on the peculiarities of training future socionomic workers in educational institutions, the psychological and pedagogical features of forming inclusive competence in limited conditions are not sufficiently covered and need to be studied.

Thus, the urgent issue is determining the psychological and pedagogical features of forming inclusive competence in future socionomic workers under limited conditions.

Beyond describing levels and determinants of inclusive competence, this study proposes an operational composite index tailored for crisis-affected higher education, integrates psychometric evidence for each component in the target population, and quantifies between-year differences with effect sizes and confidence intervals. This contextualised, measurement-transparent approach advances the literature on preparing socionomic professionals under constrained conditions.

Literature Review

Ukraine's current education policy aims to develop inclusion and an inclusive educational environment in which children with special educational needs are fully included in the mainstream classroom with regular students in their local schools. In this environment, students will be exposed to material appropriate to their level and related to their interests. They will receive specialised interventions and support that enable them to meet the core curriculum of regular students.[3,11]

In Ukraine, the Law "On Education" guarantees that every child has access to education regardless of their characteristics. This creates conditions for the development of inclusive education.[12–14]

Authors Shcherbak et al,[15]. Rebukha and Hlavatska[16] note that an effective process of inclusive education requires especially psychologically and pedagogically trained future specialists in socionomic professions. Therefore, one of the problems of implementing inclusion is the lack of teachers' preparedness to work with such students. Thus, according to (29.4%) of specialists, this problem is most likely to occur, and 35.7 % state that this problem is likely to occur, which once again confirms the need for quality training of future specialists.[17]

Summarising the experience of implementing an inclusive model of education in the educational process, Mamchur et al.[18] highlighted the theoretical problems of inclusive staff training:

- at the socio-pedagogical level: between the social order to introduce an inclusive model of education into modern pedagogical practice and the insufficient number of qualified psychological and pedagogical staff who can work with children in an inclusive environment;
- at the scientific and the theoretical level: between the need to train specialists for children with disabilities and the lack of an effective system of such training and theoretical justification of its content;
- at the practical and methodological level: between the need to implement inclusive practices, and staff training and the lack of programme and methodological materials to ensure the development of professional competence of relevant specialists.

In their work, Rebukha and Hlavatska[16] highlight the critical role of the values of the specialist's inclusive culture. Kuzava[4] defines "the inclusive competence of a future special education specialist as an indicator of an integrated personal formation, characterised by a synthesis of theoretical and practical training to perform professional functions and personally significant qualities necessary for its effective implementation in the correctional and developmental environment of an educational institution".

Nowadays, much attention is paid to the training of highly qualified teachers in many countries of the world.[17,19–22] The development of inclusive competence is becoming crucial for future socionomic professionals in the modern world with its diversity of cultures and socionomic contexts.[5] To develop professional competence, it is necessary to change the approaches and means of training future professionals to work in an inclusive environment.

Modern challenges (wars, famine, natural disasters, and socio-economic crises) contribute to the establishment of limited conditions in the educational process. For example, the recent global COVID-19 pandemic and military aggression have dramatically changed not only the lives of millions of people but also the forms of education. These restricted conditions led to the urgent introduction of distance education, and new alternative forms of education had to be found to continue the inclusive learning process, and virtual classrooms

were the only option.[23–26] Significant disadvantages of virtual classrooms include low attendance, lack of individual attention, and lack of interaction due to connectivity issues. Those who did not use virtual classrooms cited a lack of awareness as the most important reason, followed by a lack of interest and doubts about the usefulness of virtual classrooms.[15,19] Due to the high level of pedagogical competence, it was possible to adapt to difficult crisis conditions and effectively switch to distance learning, which mitigated the adverse effects of COVID-19 on the educational process.[27]

The challenges for a modern teacher are the ability to continue the educational process in limited conditions, which requires professional development and mastering new forms of teaching. In shaping the content of the concept of "professional development", there are certain factors that influence the individual and contribute to self-development, mastering new professional competencies.[28,29,6,30]

Iqbal[31] identified the components of professional development of competence in the areas of scientific and pedagogical activity: scientific and subject (classes, including classes to test the formation of primary, general, and unique professional competences; micro-classes, where attention is focused on the types of tasks, teaching methods), scientific and pedagogical (formation of general professional competence (educational and methodological, professional and psychological, organisational) and cultural and educational (social and communicative competence, ability to cooperate with others, personal qualities).

Experimental studies by Mamchur et al.[18] have shown that it is necessary to form inclusive competence in future teachers as early as possible and continue to develop it throughout their professional careers. This will help ensure quality, inclusive education for students with disabilities.

Research Aims

The study aims to determine the psychological and pedagogical features of forming inclusive competence in future socionomic workers under limited conditions.

To achieve the goal, the objectives of the work were defined:

- to investigate the current state of the problem according to scientometric sources and identify the main aspects of the formation of professional competence of future specialists in inclusive education;
- to study the peculiarities of inclusive competence of future socionomic workers in limited conditions;
- to assess the state of inclusive competence of future specialists, its psychological and pedagogical features;
- to determine the readiness of future specialists to work in an inclusive educational environment, the level of readiness to accept a child with disabilities, tolerance, empathy, and readiness for self-development.

Materials and Methods

Study Design and Participants

Design

We employed a quantitative cross-sectional survey design. Participants were enrolled in bachelor's and master's socionomic programmes at the Mykolaiv Institute of Human Development "Ukraine".

Participants and recruitment. Invitations with a study information sheet and consent form were emailed to all 78 third- and fifth-year students enrolled in the socionomic programmes. Data was collected online via Google Forms between March and April 2024. Of the 78 invited students, 56 responded, yielding a response rate of 71.8 %. After quality control and exclusion of incomplete forms, the final analytic sample comprised 50 students (42 women, 84.0 %; 8 men, 16.0 %), with 30 participants in the 3rd year (60.0 %) and 20 in the 5th year (40.0 %). The respondents ranged from 19 to 27 years, with an average age of (22.5 ± 2.4) years. A priori power analysis indicated that n = 50 provides 80.0 % power to detect a medium effect size (g = 0.70) between groups at α = 0.05. The sample size was therefore considered adequate for the study design.

Work is fully compliant with the criteria "Standards for reporting qualitative research".[32]

The study was conducted in compliance with ethical requirements and confidentiality. Participation was voluntary. Electronic informed consent was obtained prior to survey access. All respondents were informed in advance about the survey. The study was conducted in accordance with the Ethical Principles for Medical Research Involving Human Subjects, the Universal Declaration on Bioethics and Human Rights, and the principles of the Declaration of Helsinki (1964). The study protocol was approved by the Bioethics Committee of the Mykolaiv Institute of Human Development "Ukraine" (Approval No. 02-2024, dated 12 March 2024).

The inclusion criteria were:

- students of higher education institutions aged 19 to 27, studying in the 3rd and 5th years of a socio-economic field;
- provided written informed consent to participate in the study.

Exclusion criteria

- students who are temporarily not studying;
- refusal to participate or lack of written consent.

Limitations

The study is limited to third- and fifth-year students aged 19–27 studying in Ukraine, which makes it impossible to extrapolate the results to other age groups. The sample was formed on the basis of one educational institution, so the territorial factor may also influence the generalization of the results. In addition, due to a lack of long-term observation, only 8 men were included in the sample, which made it impossible to conduct testing by gender, limiting the interpretation of gender characteristics of the data obtained. Findings derive from a single-institution convenience

sample with a small, gender-imbalanced cohort, rely on self-report measures, and reflect a cross-sectional snapshot without causal inference. Online data collection may introduce non-response and selection biases. Future work should validate the ICI in multi-site cohorts, examine longitudinal change, and test predictive validity for practicum performance.

The questionnaire included questions to determine inclusive competence, tolerance, attitude to inclusion, self-development, resilience, and empathy. Inclusive competence is a set of knowledge, skills, abilities, and personal qualities that enable professionals to work effectively in an inclusive educational environment, ensuring the inclusion of children with special educational needs in the educational process and creating conditions for their development.

We defined inclusive competence as a composite of five empirically grounded components: (I) attitudes to inclusion (TAISA total), (II) resilience (CD-RISC-25), (III) emotional empathy (Mehrabian–Epstein-based score), (IV) tolerance of uncertainty (Budner-derived score; reverse-keyed so that higher values indicate greater tolerance), and (V) knowledge of inclusive education (30-item test; % correct).

Each component was z-standardised within the full sample. The Inclusive Competence Index (ICI) was computed as the unweighted mean of the five z-scores: ICI = (z(TAISA) + z(Resilience) + z(Empathy) + z(Tolerance) + z(Knowledge)) / 5.

Following distribution-based conventions (Cohen, 1988) and psychometric practice, three competence levels were defined:

Low (ICI < −0.5 SD), Medium (−0.5 ≤ ICI ≤ +0.5 SD), and High (ICI > +0.5 SD).

Levels of inclusive competence are divided into low, medium, and high. Level cut-offs. Following distribution-aware thresholds and prior theory, we classified levels as Low (ICI < −0.5 SD; n = 11, 22.0 %), Medium (−0.5 SD ≤ ICI ≤ +0.5 SD; n = 26, 52.0 %), and High (ICI > +0.5 SD; n = 13, 26.0 %). Sensitivity analyses using tertile splits yielded comparable inferences and confirmed the robustness of the classification.

Low level: Characterized by limited knowledge of inclusion, minimal practical skills, and low motivation.

Medium level: Involves sufficient knowledge and some skills to work in an inclusive classroom, but with a need for additional support and development.

High level: Includes a complete understanding of the principles of inclusion, in-depth knowledge, a high level of practical skills, flexibility, the ability to plan and evaluate independently, and a high level of motivation to work with all students.

We used the Tolerance to Uncertainty methodology Budner[33] adapted by Hromova[34] to determine the tolerance level. This questionnaire indicates the attitude towards the environment and other people and social interactions in various areas with signs of tolerance and intolerance. The number of points and the levels of intolerance and tolerance are determined when analysing the data. Thus, 16–50 corresponds to a low level of intolerance; 51–70 –to an average level; 71–112 – to a high level. That is, the higher the score, the lower the tolerance level. The total score ranged from 16 to 112. In the original Budner-derived metric, higher scores indicate greater intolerance; therefore, in the present study, all scores were reverse-keyed so that higher values represent greater tolerance. Cut-offs were defined as follows: low (<45), medium (45–70), and high (>70) tolerance (reversed metric). These values were subsequently used in constructing the ICI composite. The TAISA[35] scale of respondents' attitudes towards inclusion was analysed to assess attitudes towards inclusion. It allows for the assessment of various aspects of attitudes, such as beliefs, feelings, and readiness to work with students with special educational needs. Using TAISA (Appendix 1) helps identify problem areas and contributes to improving the effectiveness of inclusive practices. A six-point Likert scale was used to evaluate the survey results, where the answers ranged from "Strongly agree", rated at six points, to "Strongly disagree", rated at one point. As a result, a higher overall inclusion score in TAISA indicates a more positive attitude towards inclusive education.

Resilience was assessed using the Connor-Davidson Resilience Scale (CD-RISC-25).[36] The resilience questionnaire contains 25 questions, which are combined into a single resilience scale, each of which is rated on a 5-point scale from 0 to 4, with the highest score reflecting greater resilience. Respondents choose answers from the following scale:

0 – Never,
1 – Sometimes (rarely),
2 – Sometimes,
3 – Often,
4 – In most cases.

The total score can range from 0 to 100. Higher values indicate a more pronounced level of resilience. The results obtained can be interpreted according to the following ranges of psychological resilience levels:

0–33 – low;
34–67 – average;
68–100 – high.

The Connor-Davidson Resilience Scale has reliable psychometric properties and allows distinguishing between individuals with greater and lesser resilience. The scale demonstrates that resilience is modifiable and can be improved with appropriate assistance. According to a number of authors, it has been noted that disturbances in adaptation processes in stressful situations are associated with disturbances in a person's psychological state.

The "Emotional Response Scale" methodology by Mehrabian and Epstein.[37] Emotional empathy is the ability to sympathize with another person, to feel what the other person feels, to experience the same

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emotional states, to identify with them. It is related to a person's overall health, social adaptability, and reflects the level of development of interpersonal skills. The questionnaire consists of 25 closed-ended statements, both direct and reverse. The test subject must assess the degree of their agreement/disagreement with each of them. The response scale (from "strongly agree" to "strongly disagree") allows the respondent to express nuances of attitude towards each communication situation. Compared to the original version of the questionnaire, the response scale has been slightly modified, and tables have been compiled to convert "raw" scores into standard scores. Analysis and interpretation of results.

82–90 points – very high level;
63–81 points – high level;
37–62 points – normal (medium) level;
36–12 points – low level;
11 points and below - very low level.

To capture socioemotional readiness, four author-developed single items were included:

(1) readiness for self-development,
(2) acceptance of a child with special educational needs (SEN),
(3) mastery of emotions, and
(4) communication skills.

Each was rated on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree).

Internal consistency (Spearman–Brown coefficient) for these items was acceptable ($r_s = 0.72$).

A questionnaire aimed at studying the level of awareness of teachers about the peculiarities of teaching children with special educational needs. The questionnaire aimed to ascertain teachers' understanding of the essence of inclusive education and to study the level of awareness of teachers about categories of children with SEN, the specifics of implementing an individual approach to their education included 30 questions. Each correct answer to the questionnaire question is scored 1 point.

The total score indicates the level of knowledge in the field of inclusive education: 0-10 points – knowledge is chaotic, no knowledge system exists; 11-20 points – fragmented, unsystematic knowledge; 21-30 points – a stable system of knowledge in the field of inclusive education is present.

Instrument adaptation and psychometrics. All non-Ukrainian instruments underwent translation and back-translation with expert reconciliation. Internal consistency in the present sample was satisfactory to excellent: TAISA α = 0.88, CD-RISC-25 α = 0.91, empathy scale α = 0.86, tolerance of uncertainty α = 0.83, and knowledge test KR-20 = 0.79.

Knowledge test blueprint and validation. The 30-item test was designed to assess core components of inclusive education and covered five content domains: (1) legal and normative foundations of inclusion; (2) categories of special educational needs (SEN) and diagnostic criteria; (3) individualised educational planning and documentation; (4) classroom strategies and principles of Universal Design for Learning (UDL); and (5) assistive technologies and digital accessibility, six items per domain.

Content validity was confirmed through an expert panel of three inclusive education specialists (two university lecturers and one practising special educator), yielding an overall Scale-Content Validity Index (S-CVI) = 0.91, indicating high relevance and clarity of the items.

Pilot testing was conducted on n = 15 students not included in the main sample to evaluate clarity, item difficulty, and discrimination indices. After item analysis, three questions were reworded for clarity; no items were removed since all discrimination coefficients exceeded 0.18.

For the main study (n = 50), KR-20 = 0.79, reflecting acceptable internal consistency. Item mean difficulty ranged from 0.46 to 0.82, suggesting a balanced test with moderate complexity across domains.

Statistical Analysis

Descriptive statistics were used in the course of the work. To identify differences in the level of self-actualization and resilience depending on the level of education, t-tests for independent samples and one-way analysis of variance (ANOVA) were used. Statistical processing of the obtained data was performed using SPSS 22.0 software. We summarised variables as mean ± SD (continuous) and n (%) (categorical). Between-year differences were tested via independent-samples t-tests (or Welch's t when variances were unequal) and x^2 tests for categorical outcomes. We report exact p-values, Hedges' g with 95% CIs for continuous outcomes, and Cramer's V for categorical contrasts. To contextualise practical significance, we present mean differences with 95% CIs. Exploratory linear regression models quantified the association between ICI (dependent) and year (3rd vs 5th). The significance level was set at $p < 0.05$.

Results

In the first stage of our work, we surveyed respondents in the third and fifth years of higher education institutions that train future specialists in the socionomic sphere. The survey asked several questions to determine future specialists' level of inclusive competence, tolerance, attitude to inclusion, self-development, resistance, empathy, identification of limited conditions that affect competence formation, and factors contributing to the effective formation of inclusive competence.

The study was conducted to determine the formation of inclusive competence of future specialists in the socionomic sphere of the 3rd and 5th years. The analysis of the study's results showed that the 5th-year students had a higher level of formation than the 3rd-year students (Figure 1).

Across the total sample (n = 50), the mean ICI was 1.00 ± 0.82 (range −1.45 to +1.68). Third-year students (n = 30) had −0.31 ± 0.73, whereas fifth-year students (n = 20) scored +0.47 ± 0.68. The between-year difference was statistically significant ($t = 3.56$, $p < 0.01$; Hedges' $g = 0.98$; 95 % CI [0.40, 1.55]). Distribution across levels was: Low (n = 11; 22.0 %), Medium (n = 26; 52.0 %), High (n = 13; 26.0 %). Fifth-year students were predominantly in the High category (40.0 %), while third-year students were mostly Medium (56.7 %).

Regression analysis confirmed that the academic year significantly predicted ICI ($\beta = 0.45$, 95 % CI [0.18, 0.71], $p = 0.02$; $R^2 = 0.28$), indicating that progression in training explained 28.0 % of variance in inclusive competence.

The level of formation was influenced by such components as the presence of motivation to study inclusion, participation in inclusive activities, knowledge about inclusion, the ability to perform tasks related to inclusive activities in conditions of uncertainty, significant complexity or limited time, the ability to plan activities related to inclusion, to show responsibility, to conduct self-analysis, and the desire for independence and self-development.[38] The higher the level of these components, the higher the inclusive competence of future specialists.

Further analysis allowed us to assess the psychological and pedagogical indicators of competence: tolerance, empathy, resilience, readiness for self-development, and attitude to inclusion (Table 1).

The study of the level of empathy and tolerance of future specialists in the socionomic sphere using tests revealed an insufficient formation of such components of psychological competence as empathy and tolerance. A detailed analysis of the answers to the questions and the definitions of inclusion provided by the respondents in their questionnaires revealed that the higher the level and quality of the definition of inclusion, the better the attitude of future specialists

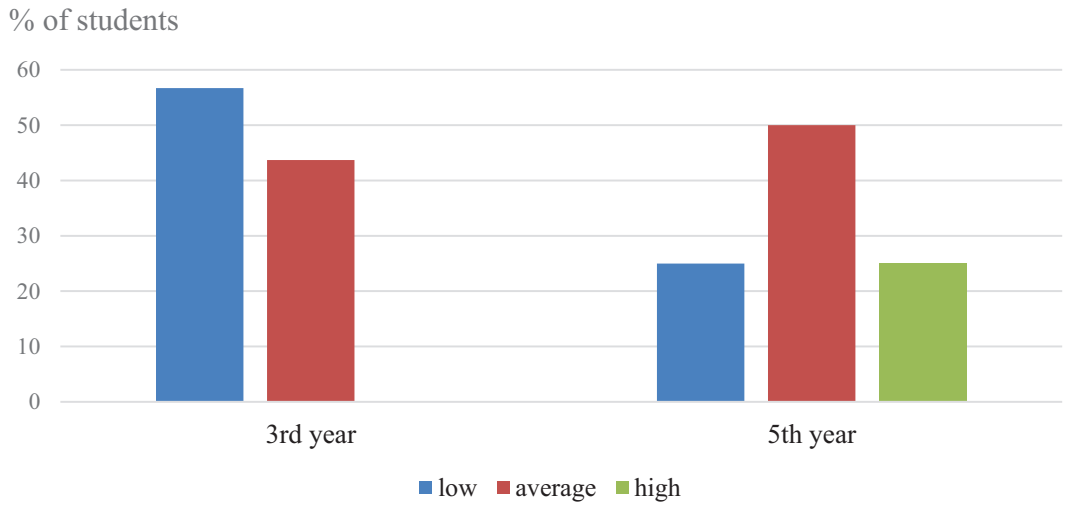

Fig 1 | Distribution of future specialists in the socionomic sphere by the level of inclusive competence formation (n = 50)

Table 1 | Assessment of psychological and pedagogical indicators of competence of future specialists in the socionomic sphere

Indicator	3rd Year Respondents (n = 30), n (%)	5th-Year Respondents (n = 20), n (%)
Tolerance level		
Low	15 (50.0)	5 (25.0)
Medium	13 (43.3)	10 (50.0)
High	2 (6.7)	5 (25.0)
Level of empathy		
Low	15 (50.0)	7 (35.0)
Medium	15 (50.0)	10 (50.0)
High	0 (0)	3 (15.0)
Readiness for self-development	15 (50.0)	13 (65.0)
Understanding inclusion	14 (46.7)	11 (55.0)
Ready to accept a child with special needs	13 (43.3)	13 (65.0)
Mastering emotions	16 (53.3)	11 (55.0)
Communication skills	14 (46.7)	12 (60.0)

Source: Compiled and calculated by the authors
Note. Values are % of respondents selecting high endorsement (4 or 5 on a 5-point scale) unless otherwise stated.

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towards inclusion. Thus, the better students understand the concept of inclusion and inclusive education, the more positive their attitude will be.

The analysis of students' knowledge demonstrated a generally sufficient level of theoretical and applied awareness of inclusive principles. The mean score for the 30-item test was 22.8 ± 4.5 points, corresponding to 76.0 ± 15.0 % of correct answers. Distribution by level showed that 10 students (20.0 %) were classified as having a low level, 28 (56.0 %) a medium level, and 12 (24.0 %) a high level of knowledge.

When compared by academic year, fifth-year students achieved significantly higher results (M = 25.1 ± 3.8) than third-year students (M = 21.2 ± 4.6; t = 3.41; p = 0.01). The effect size was moderate to large (Hedges' g = 0.78; 95 % CI [1.65 – 6.00]), indicating substantial practical improvement with academic progression.

The internal consistency of the test, assessed by KR-20 = 0.79, confirmed the reliability of the instrument. Item difficulty values ranged from 0.43 to 0.81, reflecting balanced complexity and discriminative validity across the five content domains (legal foundations, SEN categories, individualised planning, UDL strategies, and assistive technologies).

A comparison of respondents from different courses revealed statistically significant differences in the level of resilience (in the 3rd year group versus the 5th year group; p = 0.01) (Table 2). A clear difference was also found in the distribution structure, namely, among 5th-year students, the proportion of respondents with a high level of resilience was 30.0 %, while in the 3rd-year group, it was only 16.7 %. Low resilience was two times more common among third-year students (40.0 %) than fifth-year students (20.0 %), consistent with their higher mean CD-RISC-25 scores (51.4 ± 10.7 vs 65.9 ± 11.3; p = 0.01).

It is necessary to increase psychological knowledge and emotional and personal qualities, such as a positive psychological attitude to acceptance and working with people with special needs, tolerance, empathy, and communication skills. The results of a survey of respondents conducted as part of the study evidence this.

In addition, the study identified the factors that cause constraints and affect the development of inclusive competence (Table 3).

The majority of respondents from 3rd and 5th-year students noted that current global challenges, such as war and pandemics, significantly affect the development of inclusive competence of future socionomic professionals. These factors also include social and economic inequality, technological progress, and demographic changes (Table 3).

In the next stage, we identified the indicators contributing to the most effective formation of inclusive competence: understanding of inclusion, empathy training, support from the state and society, creating a barrier-free environment, and ease of innovative changes. Also, in our study, 53.3 % of 3rd-year and 75.0 % of 5th-year respondents indicated the need to develop modern methodological programmes for socionomic specialists that can be used in distance learning in limited conditions. It was noted that the problems of this form of education should be considered.

Table 2 | The level of resilience according to CD-RISC-25 of future specialists in the socionomic sphere, (n = 50)

Respondents	M ± SD	Level of resilience, n (%)		
		Low	Medium	High
3rd year (n = 30)	51.4 ± 10.7	12 (40,0)	13 (43.3)	5 (16.7)
5th year (n = 20)	65.9 ± 11.3	4 (20,0)	10 (50.0)	6 (30.0)
P	0.01	$x^2 = 7.11$; p = 0.03		

Note: p – differences between the indicators of groups of respondents from different training courses. Hedges' g for mean difference in CD-RISC-25 between years ≈1.30 (large). 95% CI for mean difference 8.15–20.85

Table 3 | Distribution of significant factors influencing the formation of inclusive competence based on a survey of future specialists in the socionomic sphere

Factor	3rd Year Respondents (n = 30), %	Respondents of the 5th Year, (n = 20), %
Current challenges		
Pandemics	93.3	85.0
Wars	96.6	100.0
Natural disasters	76.7	25.0
Inequalities		
Social	53.3	65.0
Economic	50.0	55.0
Technological progress	46.7	75.0
Demographic changes	50.0	75.0

Source: Compiled and calculated by the authors
Note. The values indicate the % percentage of respondents who identified the factor as having a significant impact on inclusive competence.

Discussion

Developing integrative competences in future socionomic professionals becomes crucial in modern challenges and constraints. The main challenge is that the socionomic field has a high level of social responsibility, and its successful functioning requires effective management of diversity and inclusion of all population groups. Globalisation and migration processes increase the diversity of cultures, languages, religions, and social groups. This requires the development of strategies and approaches that consider the needs and characteristics of each of these groups. Inequalities in access to education, health care, employment, and other resources can lead to social and economic exclusion of certain groups.[15]

Nowadays, inclusive education contributes to the creation of an educational environment that considers each child's individual needs and capabilities.[13]

The study by Kryshtanovych et al.[17] of expert responses to the question "To rank the problems that exist or are likely to arise on the way to introducing inclusive education into the general education sector?", showed that among the most likely problems to arise, 59.63 %, which is the majority of respondents, identified the unsuitability of educational institutions, and 62.38 % the lack of state funding for educational programmes, 29.35 % highlighted the unpreparedness of teachers to work with such students and pointed to the need for professional training.

Potapiuk and Kovalchuk[39] point to the need to develop inclusive competence, which determines the success of the individual's adaptation to the educational process.

Facing restricted conditions (pandemic and military aggression) requires the development of comprehensive and innovative approaches to inclusive competence building of future socionomic specialists. In the course of our work, we identified factors that are important in the formation of inclusive competence, namely, understanding the very concept of inclusion and inclusive education, a positive attitude towards inclusion, teaching empathy, mastering the methods and approaches of inclusive education, support, creating a barrier-free environment, support and counseling, openness to innovative changes, resilience, and preparation for limited conditions. These approaches involve changing educational programmes and methodologies, creating conditions for practical work in diverse environments, and actively collaborating with different social and cultural groups.[39–42] Thus, in our work, most respondents indicated the need to develop modern methodological programmes for socionomic specialists that can be used in distance learning in limited conditions. Specifically, 53.3 % of third-year respondents and 75.0 % of fifth-year respondents pointed to the need to develop modern methodological programs for specialists in the socionomic sphere that can be applied in distance learning under limited conditions.

By explicitly operationalising inclusive competence as a composite of attitudes, resilience, empathy, tolerance, and knowledge—each psychometrically supported in the target population—we offer a replicable metric (ICI) for tracking readiness in crisis-affected training contexts. The large between-year effect ($g \approx 1.0$) confirms meaningful progression, while regression modelling ($\beta = 0.45$, $R^2 = 0.28$) supports construct validity and predictive value of the ICI. Sensitivity analyses (±0.5 SD vs tertiles) yielded stable results, demonstrating robustness of the composite index. To translate these findings into practice, we propose four modular interventions aligned with ICI components: empathy and communication workshops; universal Design for Learning and assistive-technology labs; resilience-building via crisis pedagogy; digital inclusion audits. Each module enables measurable pre/post evaluation of specific ICI components (e.g., Δempathy, Δresilience, Δknowledge).

Technological developments and changes in work organisation require socionomic workers to acquire new competence skills, including digital literacy, the ability to work in a multicultural environment, and diversity management. Global challenges such as climate change, economic crises, and pandemics can increase social inequality and vulnerability.[5]

Our work yielded similar data and also indicated that social and economic inequality, technological progress, and demographic changes influence the development of inclusive competence in future specialists in the socionomic sphere. Our research is consistent with Roth et al.[43] and points to the need for self-development, self-esteem, and self-improvement. Kozlovskiy et al.[6] point out that awareness of the role of self-control and self-improvement is the basis for the development of a professional teacher. At the same time, as practice shows, the readiness of psychological and pedagogical specialists to work in an inclusive learning environment is highly insufficient.[18]

Other studies have shown that teachers face problems in 'distance education'. In some cases, there was a lack of information equipment at students' homes, a lack of communication with students and their parents, a lack of motivation among students, and children's health problems.[44] However, teachers noted some positive aspects of this education, which allowed them to teach during the pandemic. Many teachers noted that the experience they gained from working remotely was an essential indication for further development of approaches to distance learning with young children that could help reduce potential social inequalities that may arise in such a crisis.[19] Our data also showed that one of the problems of distance-inclusive learning is the lack of communication with the teacher and peers, lack of awareness of parents and children, and low level of competence.

Scientists are actively studying the problem of forming inclusive competence and its impact on professional activity.[5,22,39] The targeted training of future innovative specialists and their professional inclusive competence and professional interaction play an essential role. Pankevych[45] found that students are less aware of the essence of professional interaction

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in the socionomic sphere. Therefore, future socionomic specialists must develop a culture of professional interaction during their studies.[46] In addition, the ability to control one's emotions is essential. The need to develop individual anti-stress skills, skills to control the manifestation of emotions based on a critical analysis of the situation, and the ability not to take out negative emotions on other people has been shown.[47] Another critical component of competence development is the development of empathy and understanding of the needs of people with disabilities. Psychological assistance can help build these skills by training in interacting with different groups of people and developing empathic perception.[48,49] Another vital aspect is managing stress and adapting to changing demands.[50,51] Resilience has been found to be an important protective factor associated with higher levels of self-actualization and better quality of life indicators. Current data also confirm that high resilience is a key mechanism for maintaining adaptive functioning after traumatic experiences. Our research has shown that the level of education influences the development and formation of resilience and indicates the need to include its development in training programs for future teachers in the socionomic sphere. Koval et al. [52] point out the importance of resilience for future socionomic workers' competence development. People with a high level of resilience can develop under any conditions, events and critical situations, and they perceive changed conditions as another testing stage.

The factors that influence the effective development of inclusive competence in future specialists in the socionomic sphere have been identified.[53] These include understanding the concept of inclusion and inclusive education, positive attitude to inclusion, empathy training, mastery of methods and approaches of inclusive education, support, creation of a barrier-free environment, support and counselling, ease of innovative changes, resilience, and preparation for limited conditions. Our research has shown that these factors impact the formation of inclusive competence of future socionomic specialists in limited conditions.

Practical recommendations indicate the need to develop and implement training modules as a method of forming teachers' psychological readiness for inclusive education in limited conditions. Unlike professional knowledge, skills, and abilities, which can be taught to teachers, psychological readiness, which is part of a person's psychological essence, cannot be taught. Therefore, to develop this readiness, it is advisable to use exclusively psychological mechanisms of influence, which include psychological training. These trainings should include motivational, cognitive, operational, and personal components. At the same time, it is important to develop the professional qualities of future teachers:

- empathy, altruism, tolerance;
- develop skills of compassion and empathy;
- develop the skills necessary to actualize altruistic behavior;
- forming a tolerant attitude towards the individual characteristics of each child;
- developing skills of confident behavior and resilience;
- developing the ability for self-awareness.

To determine the results of the training and the need to continue the programs, an initial diagnosis was conducted before the training sessions, and a repeat diagnosis was conducted after.

By explicitly operationalising inclusive competence as a composite of attitudes, resilience, empathy, tolerance, and knowledge — each psychometrically supported in the target population — we offer a replicable metric (ICI) for tracking readiness in crisis-affected training contexts. The large between-year effect in resilience is not merely statistically significant but practically meaningful, aligning with the curricular exposure and maturation expected by year 5. Embedding targeted modules (e.g., empathy training, UDL, assistive technologies, crisis pedagogy and resilience, digital inclusion) is therefore likely to yield measurable gains on ICI.

Conclusion

The main goal of modern higher education programmes that ensure the development of future professionals' competence to work in inclusive educational settings is to build an understanding of inclusion and the principles of inclusive education and master modern models of psychological and pedagogical development. The inclusive education system requires future specialists' readiness to work effectively with students with disabilities. This study has shown that future socionomic specialists who have already received a bachelor's degree have a more positive attitude than those who have not. A higher level of emotional control, sociability, tolerance, and empathy also characterises them. It has been established that modern challenges such as war and pandemics, social and economic inequality, technological progress, and demographic changes significantly affect the development of inclusive competence of future socionomic professionals.

The data presented in the paper can be used to create an effective system of competence formation in limited conditions of inclusive education. The article's materials can help prepare training courses and seminars for special psychological and pedagogical training of future specialists in the socionomic sphere. Integrate practical training through internships in inclusive institutions, expand knowledge about the developmental characteristics of children with different needs and their adaptation, develop a positive attitude towards inclusion and resilience, teach empathy, develop skills in applying adaptive teaching methods and using assistive technologies, and foster a tolerant attitude towards human differences.

Further research should be directed toward identifying gender-specific features of the development of inclusive competence.

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Appendix 1. Teacher Attitudes to Inclusion Scale (TAISA)

Question:

- Maintaining order in a regular classroom with a child with special educational needs is difficult.
- Children with special educational needs can confuse a regular classroom.
- Inclusion can hurt the emotional development of a child with special educational needs.
- A child with special educational needs can develop academic skills faster in a particular classroom than in a regular classroom.
- The behaviour of students with special educational needs sets a bad example for other students.
- A child with special educational needs will likely have behavioural problems in a regular classroom.
- The extra attention required by students with special educational needs is detrimental to other students
- Isolation in a particular class hurts the social and emotional development of a child with special educational needs.
- Students with special educational needs should be allowed to function in the regular classroom whenever possible.
- The inclusion of students with special educational needs can be beneficial for students without such needs.
- Including a child with special educational needs in a regular classroom promotes social independence.
- Most children with special educational needs behave well in the classroom.
- Including children with special educational needs requires significant retraining of teachers in regular classes.
- Including children with special educational needs requires significant changes in the regular classroom.
- Special education teachers provide diagnostic and recommendation training better than regular classroom teachers.
- Increasing freedom in the classroom creates too much confusion.
- Children with special educational needs need to be told precisely what they are supposed to do and how to do it.
- The behaviour of a child with special educational needs in the classroom usually requires more patience from the teacher than an average child.
- Most children with special educational needs do not attempt to complete their tasks adequately.
- Students with special educational needs are best met in special classes.

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