Self-Organization of Student Youth under Conditions of Social Uncertainty

Самоорганізованість студентської молоді в умовах соціальної невизначеності

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Ihor Hoian*
Doctor of Psychological Sciences, Full Professor,
Department of Social Psychology,
Vasyl Stefanyk Precarpathian National University, Ukraine
https://orcid.org/0000-0003-2548-0488

Svitlana Yakovleva
Doctor of Psychological Sciences, Full Professor,
Department of Special Education,
Kherson State University, Ukraine
https://orcid.org/0000-0001-7620-098X

Inesa Hulias
Doctor of Psychological Sciences, Full Professor,
Department of Psychology,
Yuriy Fedkovych Chernivtsi National University, Ukraine
https://orcid.org/0000-0002-4960-4011

Iryna Fomina
PhD Student,
Department of Psychology,
Educational and Scientific Institute of Psychology and Social Sciences,
Interregional Academy of Personnel Management, Ukraine
https://orcid.org/0009-0006-2693-5957

* Corresponding Author: ihor.hoian@pnu.edu.ua
* Автор-кореспондент: ihor.hoian@pnu.edu.ua
Abstract
The aim is a theoretical and empirical research of the psychological characteristics and types of self-organization among student youth in conditions of social uncertainty. Methods. The sample consisted of students from three levels of higher education who were studying at universities in Ukraine, a total of 362 individuals (M = 22.86; SD = ±2.84). An important criterion that united the subjects is that, during the martial law all of them found themselves in a difficult social situation, and their living and studying underwent significant spatiotemporal and content changes. Psychodiagnostic methods that were validated by psychologists on Ukrainian samples were used. The main dimensions of readiness for change, self-organization, and self-regulation were determined by: "Readiness to Change Questionnaire" (RCQ) (Rollnick et al., 1992); "Self-Organization of Activity Test-Questionnaire" (SOTQ) (Mandrikova, 2010); and the questionnaire "Style of Behavior Self-Regulation" (SBSR) (Morosanova, 1991).
Results. Twenty-five statistically significant correlations (p < .050; p < .010; p < .001) were identified, demonstrating regular dependencies among the researched parameters. Through cluster analysis using the k-means method, four types of self-organization among student youth in conditions of social uncertainty were established: "Adventurous self-organization" (AS) (Cluster 1, n = 47; 12.98%); "Optimistic self-organization" (OS) (Cluster 2, n = 143; 39.50%); "Passionate self-organization" (PS) (Cluster 3, n = 97; 26.80%) and "Tolerant self-organization" (TS) (Cluster 4, n = 75; 20.72%). Discussion and conclusions. It was substantiated that "adventurousness", which has the strongest direct correlation with "purposefulness" (R = .231; p < .001), is dangerous. It is explained that a high level of purposefulness and constructive ambition, which is characteristic of student organization leaders, definitely borders on adventurousness, with youthful maximalism and can bring record results and feats, as well as have reverse consequences and deep disappointments. It is substantiated that "AS" and "PS" are destructive, while "OS" and "TS" are constructive types of self-organization. It is summarized that the outlined types represent a successful attempt at clustering the empirical data with the aim to discover new knowledge. It is recommended that the obtained results be implemented in the structural units of higher education institutions that work with student youth.
Keywords: self-organization, motivation, resilience, values, gender, inclusive educational environment, self-actualization.

Introduction
Our present is filled with situations of social uncertainty. The development of education

Anotacija
Метою є теоретико-емпіричне дослідження психологічних особливостей і типів самоорганізованості студентської молоді в умовах соціальної невизначеності. Методи. Вибіркову суккупність склаві здобуваці трьох рівнів вищої освіти, які навчалися в університетах України, загальною кількістю 362 особи (M = 22.86; SD = ±2.84). Важливим критерієм, що об'єднав досліджуваних є те, що під час воянного стану всі вони опинилися у складній соціальній ситуації, а їхне проживання i навчання зазнало суттєвих просторово-часових і змістових змін. Застосовано психодiагностичні методики, які пройшли апробацію дослідниками-психологами на українських вибірках. Основні виміри параметрів готовності до змін, самоорганізації та саморегуляції визначено: "Опитувальником особистісної готовності до змін" (ООГЗ) (Rollnick et al., 1992); "Тест-опитувальником самоорганізації діяльності" (ТОСД) (Мандрикова, 2010); "Опитувальником "Стиль саморегуляції поведінки" (ССП) (Morosanova, 1991). Результати. З'ясовано двадцять п'ять статистично достовірних зв'язків (р<.050; р<.010; <.001), які про- демонстрували закономірні залежності досліджуванних параметрів. Кластерним аналізом методом k-середніх установлено чотири типи самоорганізованості студентської молоді в умовах соціальної невизначеності: "Авантурна самоорганізація" (АС) (кластер 1, n = 47; 12.98%); "Оптимістична самоорганізація" (ОС) (кластер 2, n = 143; 39.50%); "Пристрасна самоорганізація" (ПС) (кластер 3, n = 97; 26.80%) і "Толерантна самоорганізація" (ТС) (кластер 4, n = 75; 20.72%). Дискусія і висновки. Обґрунтовано, що "авантюрність", яка володіє найміцнішим прямим зв'язком із "цілеспрямованістю" (R = 231; p < .001), є небезпечною. Пояснено, що високий рівень цілеспрямованості, конструктивної амбіційності, який призначений лідерам студентських організацій, безумовно межує з авантюрністю, з юнацьким максималізмом і може приносити рекордні результати та подвиги, а також мати зворотні наслідки i глибоїкі розчарування. Обґрунтовано, що "АС" і "ПС" є деструктивними, а "ОС" і "ТС" - конструктивними типами самоорганізованості. Узагальнено, що окреслений типи є вдалими спробою кластеризації емпіричного масиву даних із метою з'ясування нових знань. Рекомендовано отримані результати проводити у структурні підрозділи закладів вищої освіти, які працюють зі студентською молоддю.
Ключові слова: самоорганізація, мотивація, резистентність, цінності, гендер, інклюзивне освітнє середовище, самоактуалізація.
and science depends on social, political, and economic changes that have a systemic constructive and sometimes destructive impact. The reforms sweeping the educational sphere aim for sustainable development, although in fact, at the implementation stage, changes only add social uncertainty for all participants in this process. The geopolitical vector in the form of martial law, has been added to the specified vectors of social life, including social, political, and economic. Social uncertainty has taken on complex meaning and form. Such a natural social situation caused by geopolitical influences prompts us to determine the important socio-psychological regulators of behavior of the most active and one of the largest groups of society – the student youth. According to I. Hoian (2021), student youth is the most sensitive to the processes of self-organization and self-regulation, which are in organic unity with each other. Self-regulation of personal behavior and formation of social and personal norms of young people reflect the possibilities and contradictions of student youth. The researcher, conceptualizing the problem of youth self-organization in a socio-psychological paradigm, stated that the nature of social processes influences the fluctuation of societal psyche of a young person (Hoian, 2021).

As demonstrated in a series of empirical studies, adolescence is the most sensitive age period for the development of an individual’s ability to self-organize (Blynova et al., 2022a; 2022b). Self-organization in conditions of social uncertainty can be endowed with a variety of factors. It is important to identify the patterns of connection and group the most significant taxonomies trying to solve the outlined scientific problem and understand the dominant combinations of parameters in conditions of social uncertainty.

The theoretical-methodological research of the problem of youth self-organization convincingly demonstrates that many researchers have used the fundamental principles of the personal-activity approach, considered self-organization as a unity of the activity process and individual abilities (Lohani et al., 2023; Popovych et al., 2022a; 2022b). There are studies that linked self-organization with the ability to independently organize oneself to achieve a set...
goal (Nosov et al., 2020a; 2020b; Zinchenko et al., 2023), which can be traced in the self-efficacy of individual activity and the effectiveness of collective work (Gumennykova et al., 2021; Halian et al., 2023a; 2023b; Regatto-Bonifaz et al., 2023), in the motivation and planning of one’s activity in the context of responsibility for the future result, in the critical assessment of the results of activity (Radul et al., 2022; Stalmach et al., 2023; Tsymbal et al., 2017; 2019).

Researcher I. Hoian (2019) focused on the axiological aspects of the moral and legal decision-making by young people. It was established that the processes of enhancing the meaningfulness of life impact the peculiarities of self-organization of young people. Psychological maturity, personal, and professional development of youth are realized through the formation of adequate self-esteem, an objective level of aspirations; through the combination of external and internal motivation in educational and professional activities, and through the development of professional self-awareness (Hoian, 2021). The issue of social uncertainty is not new in psychological science. The question of uncertainty was raised in the context of the paradigm of social constructivism (Shotter & Gergen, 1994). The focus of this paradigm lies in the construction of social reality, social values, and individual interests. Actually, individuals construct the world depending on how they perceive it and act within it, according to the authors (Shotter & Gergen, 1994: 12). The COVID-19 pandemic, which engulfed our planet, provoked one of the greatest social uncertainties. Researcher R. Srivastava (2023) identified trends in tolerance for frustration and uncertainty during the second wave of the pandemic. The researcher studied the gender aspect of this problem and established a statistical difference in tolerance to uncertainty and stress. In another study, A. Gillman et al. (2023) found that tolerance to uncertainty can have a mitigating effect regarding pandemic-related health information.

Researchers M.-F. de Lafontaine et al. (2023) identified a series of links within the five-factor model of distress tolerance, anxiety, and respondents’ sensitivity to anxiety. It was found that tolerance to negative emotions demonstrates, that bagatо дослідників послуговувалися вихідними положеннями особистісно-діяльнісного підходу, позиціонували самоорганізацію як єдність процесу діяльності та здібностей особистості (Lohani et al., 2023; Popovych et al., 2022a; 2022b). Є дослідження, які пов’язували самоорганізацію з умінням самостійно організуватися для досягнення поставленої мети (Nosov et al., 2020a; 2020b; Zinchenko et al., 2023), яку можна відстежити в самоєфективності індивідуальної діяльності та ефективності спільної роботи (Gumennykova et al., 2021; Halian et al., 2023a; 2023b; Regatto-Bonifaz et al., 2023), у мотивації та плануванні своєї діяльності в контексті відповідальності за майбутній результат, у критичній оцінці отриманих результатів діяльності (Radul et al., 2022; Stalmach et al., 2023; Tsymbal et al., 2017; 2019).

Дослідник I. Hoian (2019) приділив увагу аксіологічним аспектам ухвалення молодьою морально-правових рішень. Установлено, що процеси підвищення осмислення життя впливають на особливості самоорганізації молоді. Психологічна зрілість, особистісне і професійне становлення молоді реалізується через формування адекватної самооцінки, об'єктивного рівня домагань; через поєднання зовнішньої і внутрішньої мотивації в навчально-професійній діяльності, через становлення професійної самосвідомості (Гояна, 2021). Проблема соціальної невизначеності не є новою у психологічній науці. Питання невизначеності піднімали в контексті парадигми соціального конструктивізму (Shotter, Gergen, 1994). У центрі уваги цієї парадигми лежить конструктування соціальної реальності, соціальних цінностей та інтересів індивіда. Власне, людина конструє світ у залежності від того, як його сприймає і як у ньому діє, на думку авторів (Shotter, Gergen, 1994: 12). Пандемія COVID-19, яка огорнула нашу планету, спровокувала одну з найбільших соціальних невизначеностей. Дослідник R. Srivastava (2023) з’ясував тенденції толерантності до розчарування та невизначеності під час другої хвилі пандемії. Дослідник вивчав гендерний аспект цієї проблеми і встановив статистичну відмінність щодо толерантності до невизначеності та стресу. В іншому дослідженні A. Gillman et al. (2023) з’ясовано, що
and uncertainty are related to anxiety regardless of other factors. H. Broos et al. (2023) found that emotional intolerance has a significant impact on anticipated anxiety and preparatory behavior in situations of high uncertainty. This indicates that the emotional component in social uncertainty has a huge resource and is understudied.

An interesting conclusion was reached by researcher X. Wang (2023), who argued that uncertainty in meta-management can lead to network processes that contradict the initial intentions. A. Lim and S. Javadpour (2021) focused on the connection of students’ uncertainty with the problem of procrastination. They found that situations of social uncertainty can positively affect procrastination, increasing its level. We come to the conclusion that situations of social uncertainty can be accompanied by coping strategies and defense mechanisms of constructive and destructive action. In a series of recent studies (Boushehri et al., 2024; Loureiro et al., 2024; Person & Frazier, 2024; Richardson et al., 2022; Worst et al., 2024), the correlation between anxiety, coping strategies, and student perfectionism was explored. The theoretical analysis of empirical research, concepts, and familiarization with psychodiagnostic tools led to the conclusion that outlined issues of student youth self-organization in conditions of social uncertainty remain relevant and have questions that need to be resolved in the context of modern conditions.

The types of self-organization of student youth are considered the constructive and destructive taxonomies that were formed as a result of clustering of relevant parameters of self-organization, self-regulation, and readiness for changes of the research participants under conditions of social uncertainty.

**Hypothesis.** The identified taxonomies will allow establishing constructive and destructive types of self-organization of respondents depending on the dominant characteristic.

**The aim.** The theoretical-empirical study of the psychological characteristics and types of self-organization of student youth in conditions of social uncertainty.

**Methods**

**Methodology** of the research on the self-organization of student youth under...
conditions of social uncertainty was based on the concept of youth self-organization during periods of social transformations by I. Hoian (2021); the foundational principles of social constructivism by J. Shotter and K. Gergen (1994); the concept of self-awareness of the individual (Rochat, 2003); the main theses of the concept of self-regulation of behavior by V. Morosanova (1991), and the concepts of psychological readiness for change by O. Mitroshkina (2018). The results of contemporary works on the creation of typologies (Popovych et al., 2020; Sung et al., 2022) were also considered. The outlined boundaries of the research methodology allowed the organization of the issue research.

Participants. The sample consisted of students from three levels of higher education, studying at Ukrainian universities: Vasyl Stefanyk Precarpathian National University, (Ivano-Frankivsk, Ukraine), Kherson State University (relocated to Ivano-Frankivsk, Ukraine), Volodymyr Dahl East Ukrainian National University (Kyiv, Ukraine). The research involved n = 362 persons aged 18 to 32 years (M=22.86; SD=±2.84). The gender distribution was as follows: male (n=85; 23.48%) and female (n=277; 76.52%). An important criterion for constructing the sample was the selection of individuals who, during the martial law, found themselves in a difficult social situation, and their living and learning conditions underwent significant spatial-temporal and content changes, typically including internal and external migrants, individuals who lost their homes, suffered irreparable material and moral damages, or lost family members and friends. Persons in severe moral-psychological states, diagnosed with post-traumatic stress disorder (PTSD), were not included in the sample.

Procedures and Instruments. Three valid and reliable psychodiagnostic methods were used, which were tested by psychologist researchers on Ukrainian samples (Hoian, 2021). The main measurements of the parameters of readiness for change are determined by "Readiness to Change Questionnaire" (RCQ) (Rollnick et al., 1992). The authors recommend applying the methodology in situations of stress, innovation, and uncertainty, as no one is completely successful in coping with change. Resisting changes helps people protect

Гіпотези. З’ясовані таксономії дозволять встановити конструктивні і деструктивні типи самоорганізованості респондентів в залежності від домінуючої ознаки.

Мета. Теоретико-емпіричне дослідження психологічних особливостей і типів самоорганізованості студентської молоді в умовах соціальної невизначеності.

Методи


Учасники. Вибіркову сукупність склали добувачі трьох рівнів вищої освіти, що навчалися в університетах України: Прикарпатський національний університет імені Василя Stefaniка (Івано-Франківськ, Україна), Херсонський державний університет (релоковано до Івано-Франківська, Україна), Східноукраїнський національний університет імені Володимира Даля (Київ, Україна). У дослідженні взяло участь n = 362 особи, віком від 18 до 32 років (M=22.86; SD=±2.84). За стаєвою ознакою отримано такий розподіл: чоловічої статі (n=85; 23.48%) і жіночої статі (n = 277; 76.52%). Важливим критерієм конструювання вибіркової сукупності був відбір досліджуваних, які під час воєнного стану опинилися у складній соціальній ситуації, а їхнє проживання і навчання зазнало суттєвих просторово-часових та змістових змін, зазвичай це внутрішні й зовнішні мігранти, особи, що втратили житло, понесли непоправні матеріальні й моральні збитки, втратили рідних та близьких. До вибіркової сукупності не
themselves in stressful situations, that is, those who are most vulnerable to them. The method combines thirty-five statements and contains seven scales: Passion (Ps); Resourcefulness (Rf); Optimism (Op); Adventurousness (Ar); Adaptability (Ab); Confidence (Cd); Tolerance for Ambiguity (TA). A six-point scale with direct and reverse scoring was used, where “1” means no, and “6” means yes. The α-Cronbach parameter, based on the empirical data of “RCQ” (Rollnick et al., 1992), was recorded at a medium level of α = .853. The main dimensions of self-organization parameters were determined by “Self-Organization of Activity Test-Questionnaire” (SOATQ) (Mandrikova, 2010). The main purpose of this test is the diagnosis of the formation of skills in tactical planning and strategic goal setting. The methodology combined twenty-five statements and has six scales: plannedness (Pl); purposefulness (P); persistence (Pr); fixation (F); self-organization (SO), and present orientation (PO). The α-Cronbach parameter, based on empirical data of “SOATQ” (Mandrikova, 2010), was recorded at a satisfactory level of α = .722. The main parameters of self-regulation were determined by “Style of Behavior Self-Regulation” (SBSR) (Morosanova, 1991). The questionnaire has a scale of the general level of self-regulation (GS), which reflects the level of formation of the personal system of self-regulation of the individual. The method contains six scales, which are separated according to basic regulatory processes: planning (PL), modeling (MD), programming (PR), and results evaluation (RE). The final two scales characterize regulatory-personal properties: flexibility (FL) and independence (IN). The α-Cronbach parameter, based on empirical data of “SBSR” (Morosanova, 1991), was at a medium level of α = .787.

Variables. In the research, seven parameters of personal readiness for change were identified: Passion (Ps); Resourcefulness (Rf); Optimism (Op); Adventurousness (Ar); Adaptability (Ab); Confidence (Cd); Tolerance for Ambiguity (TA). Self-organization of the subjects was determined by six parameters: plannedness (Pl); purposefulness (P); persistence (Pr); fixation (F); self-organization (SO), and present orientation (PO). To find out the parameters and properties
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of self-regulation of behavior, seven scales were used: general level of self-regulation (GS), planning (PL), modeling (MD), programming (PR), and results evaluation (RE), flexibility (FL) and independence (IN).

Organization of Research. The survey was organized according to the ascertainment strategy during the first semester of the 2023–2024 academic year. The collection of empirical data took place during classroom work, using standard questionnaire forms in Google forms. Participants were informed in advance, and the requirements of confidentiality and voluntary participation were met. The research concerned the initiative themes of the researchers’ departments. The ethical committees of the universities approved the issues and main stages.

Statistical Analysis. The obtained array of empirical data was initially processed manually (paper forms), and those obtained through the Google Forms application were processed using "MS Excel". The main statistical operations were performed using the "SPSS" software, v. 17. In the research, correlation was determined using the Pearson coefficient (R). The correctness of the data distribution was confirmed by the Kolmogorov-Smirnov consistency criterion (λ). Types of student youth self-organization were determined by cluster analysis (k-means method).

Results

The main descriptive characteristics were determined for all applied psychodiagnostic tools. The empirical array is presented through the mean distribution (M) and the standard deviation (SD). Tabl. 1 presents the studied parameters according to “Readiness to Change Questionnaire” (RCQ) (Rollnick et al., 1992).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Mean (M)</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resourcefulness</td>
<td>25.61</td>
<td>±6.61</td>
</tr>
<tr>
<td>Adventurousness</td>
<td>25.12</td>
<td>±6.19</td>
</tr>
</tbody>
</table>

Results with similar samples, in particular by I. Hoian (2021) and O. Mitroshkina (2018), using the Student’s t-test, did not demonstrate statistically significant differences. We can identify positive trends according to the parameters: “resourcefulness” (M = 25.61; SD = ±6.61) and “adventurousness” (M = 25.12; SD = ±6.19). The descriptive frequency characteristics of the constructed sample qualitatively represented the general sample of student youth (n = 362). Comparison with the results obtained by researchers on similar samples, in particular by I. Hoian (2021) and O. Mitroshkina (2018), using the Student’s t-test, did not demonstrate statistically significant differences. We can identify positive trends according to the parameters: “resourcefulness” (M = 25.61; SD = ±6.61) and “adventurousness” (M = 25.12; SD = ±6.19).
These trends may indicate some actualization of the characteristics of youth in today’s critical conditions. In Tabl. 2, the researched parameters according to “Self-Organization of Activity Test-Questionnaire” (SOATQ) (Mandrikova, 2010) are presented.

A comparison of six parameters was made according to the average values proposed by the author of “SOATQ” (Mandrikova, 2010). Since the mean values in the method are determined separately for men and women, we have made comparisons with both data sets. We have to state that there are no differences. No differences with the data from another research of I. Hoian (2021) were stated either. In Tabl. 3, the researched parameters according to the “Style of Behavior Self-Regulation” (SBSR) (Morosanova, 1991) are presented.

Although the obtained results showed high values for the parameters: “general level of self-regulation” (M = 28.34; SD = ±4.35); “flexibility” (M = 5.34; SD = ±1.91) and “independence” критерієм узгодженості (λ) Колмогорова-Смирнова. Типи самоорганізованості студентської молоді визначено кластерним аналізом (методом k-середніх).

Результати

Визначено основні описові характеристики за всіма застосованими психодіагностичними інструментами. Емпіричний масив подано через середнє розподілу (M) і середнє квадратичне відхилення (SD). У табл. 1 подано досліджувані параметри за “Опитувальником особистісної готовності до змін” (ООГЗ) (Rollnick et al., 1992).


Table 1. Descriptive frequency characteristics according to "RCQ" (Rollnick et al., 1992) (n = 362)

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Mean of distribution (M)</th>
<th>Standard deviation (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passion (Ps)</td>
<td>27.28 ±6.55</td>
<td></td>
</tr>
<tr>
<td>Resourcefulness (Rf)</td>
<td>25.61 ±6.61</td>
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</tr>
<tr>
<td>Optimism (Op)</td>
<td>24.02 ±6.29</td>
<td></td>
</tr>
<tr>
<td>Adventurousness (Ar)</td>
<td>25.12 ±6.19</td>
<td></td>
</tr>
<tr>
<td>Adaptability (Ad)</td>
<td>25.08 ±6.18</td>
<td></td>
</tr>
<tr>
<td>Confidence (Cd)</td>
<td>25.05 ±6.17</td>
<td></td>
</tr>
<tr>
<td>Tolerance for Ambiguity (TA)</td>
<td>26.12 ±6.20</td>
<td></td>
</tr>
</tbody>
</table>

Table 2. Descriptive frequency characteristics according to “SOATQ” (Mandrikova, 2010) (n = 362)

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Mean of distribution (M)</th>
<th>Standard deviation (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plannedness (Pl)</td>
<td>18.92 ±4.45</td>
<td></td>
</tr>
<tr>
<td>Purposefulness (P)</td>
<td>36.12 ±6.23</td>
<td></td>
</tr>
<tr>
<td>Persistence (Pr)</td>
<td>21.44 ±4.98</td>
<td></td>
</tr>
<tr>
<td>Fixation (F)</td>
<td>20.15 ±4.77</td>
<td></td>
</tr>
<tr>
<td>Self-Organization (So)</td>
<td>10.14 ±2.06</td>
<td></td>
</tr>
<tr>
<td>Present orientation (PO)</td>
<td>8.34 ±1.17</td>
<td></td>
</tr>
</tbody>
</table>
Self-Organization of Student Youth under Conditions of Social Uncertainty

There were no statistically significant differences compared with the data in I. Hoian’s (2021) work. It should be noted that the researched sample of student youth is characterized by high self-regulation ability, readiness for organized activity, although there are impulsive manifestations, management of local situational circumstances, blind faith in the opinion of significant others, without critical analysis of the situation. These manifestations are not of a systemic nature and have a minimal impact. Further, bivariate correlations between parameters of self-organization and behavior self-regulation with measures of personal readiness for change were explored. Pearson's correlation analysis (R) was used, as the Kolmogorov-Smirnov consistency criterion (λ) confirmed the correctness of the empirical array distribution. In Tabl. 4, the correlation matrix of bivariate correlations of the researched parameters is presented.

Twenty-five statistically significant correlations (p < .050; p < .010; p < .001) between measurements of personal readiness for change and the parameters of self-organization and self-regulation were obtained. All parameters of personal readiness for change have statistically significant correlations. The most dependent are: “resourcefulness” – six; “adaptability” – six; “tolerance for ambiguity” – five correlations. The strongest direct correlations were recorded in the pairs “adventurousness” and “purposefulness” (R = 231; p <.001) and “adaptability” and “plannedness” (R = 223; p <.001).

Table 3. Descriptive frequency characteristics according to “SBSR” (Morosanova, 1991) (n = 362)

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Mean of distribution (M)</th>
<th>Standard deviation (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>General level of self-regulation (GS)</td>
<td>28.34 ±4.35</td>
<td></td>
</tr>
<tr>
<td>Planning (PL)</td>
<td>5.45 ±2.01</td>
<td></td>
</tr>
<tr>
<td>Modeling (MD)</td>
<td>6.29 ±2.58</td>
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<tr>
<td>Programming (PR)</td>
<td>5.01 ±1.82</td>
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</tr>
<tr>
<td>Results evaluation (RE)</td>
<td>6.76 ±2.09</td>
<td></td>
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<tr>
<td>Flexibility (FL)</td>
<td>5.34 ±1.91</td>
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<tr>
<td>Independence (IN)</td>
<td>4.86 ±1.77</td>
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</tbody>
</table>
No indirect correlations were found in the researched parameters. If all measurements of personal readiness for change possess statistically significant correlations, then among the parameters of self-organization, there are no connections “fixation” and “present orientation”. Among the parameters of self-regulation, there are no correlations in “results evaluation”. The

<table>
<thead>
<tr>
<th>Table 4. Correlation matrix of self-organization and self-regulation parameters with measurements of personal readiness for change (n = 362)</th>
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<tbody>
<tr>
<td><strong>Scales</strong></td>
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</table>

Note: PI – plannedness; P – purposefulness; Pr – persistence; F – fixation; SO – self-organization; PO – present orientation; GS – general level of self-regulation; PL – planning; MD – modeling; PR – programming; RE – results evaluation; FL – flexibility; IN – independence; R – Pearson’s correlation coefficient; p – nominal value; Ps – passion; Rf – resourcefulness; Op – optimism; Ar – adventurousness; Ad – adaptability; Cd – confidence; TA – Tolerance for Ambiguity; * – correlation at the level of p≤.050; ** – correlation at the level of p≤.010 and p<.001.
correlation matrix demonstrated the regular interdependencies of the studied parameters and allowed identifying the most loaded scales, which will be applied in the next stage of the research—clustering.

Using clustering (the \( k \)-means method), the optimal number of clusters was determined for \( K \) \( R \), oscillating criteria of adequacy \((\lambda)\) Kolmogorova-Smirnova pідтверджені нормальний розподіл емпіричного масиву. У табл. 4 подано кореляційну матрицю двосторонніх зв’язків досліджуваних параметрів. Отримано двадцять п’ять статистично достовірних зв’язків (\(p<.050; \ p<.010; <.001\)).
to be four (k = 4). During the clustering process, all parameters that had statistically significant correlations at one of the levels p<.050; p<.010; p<.001 were used. There were seventeen (n = 17) such parameters. The parameter “self-organization” (M = 10.14; SD = ±2.06) was considered as the main characteristic. This is justified by the fact that aim of the research is to determine the types of self-organization among the subjects. It was empirically determined that the smallest cluster could be n ≥ 33. Using “SPSS” version 17, the statistical parameters that validated the clustering were identified: KMO = .798 (Kaiser-Meyer-Olkin criterion); p < .001 (Bartlett’s coefficient). Tabl. 5 presents the empirical parameters of clustering – the beginnings and ends of the clusters.

We conclude that the distribution of empirical features and the sequence of the presented empirical data have determined the priority in combining the most connected dispersive populations, i.e. clusters. Usually, the first or largest cluster is determined by the first characteristic. The proposed beginnings and ends of clusters outline the statistical boundaries of the types of self-organization of student youth in conditions of social uncertainty. Characterizing the clusters that became the embodiment of types, the focus was made on dominant parameters.

**Cluster 1** traditionally combined the fewest subjects (n=47; 12.98%). The dominant parameters of the first cluster are high levels of purposefulness (x = 41.00; y = 48.00); adventurousness (x = 31.00; y = 38.00); confidence (x = 30.00; y = 38.00) and flexibility (x = 11.00; y = 18.00). The type of self-organization of student youth, based on the combination of these dominant parameters, was named “Adventurous Self-Organization” (AS).

**Cluster 2** united the largest number of respondents and, is therefore considered the largest in size (n = 143; 39.50%). The dominant parameters of the second cluster are high levels of self-organization (x = 12.00; y = 16.00); plannedness (x=20.00; y=24.00); resourcefulness (x = 33.00; y = 38.00) and optimism (x = 32.00; y = 37.00). Due to the optimism characteristic of youth and the dominant level of this parameter, this type of self-organization of student youth was named “Optimistic Self-Organization” (OS).
Cluster 3 has a significant number of students (n = 97; 26.80%) and ranks second in size after "OS". The dominant parameters of the third cluster are high levels of persistence (x = 31.00; y = 37.00) and passion (x = 33.00; y = 39.00). Expressiveness, which is characteristic of youth, as well as the dynamics and variability of the emotional-volitional sphere, prompted the choice of name of this type of self-organization of student youth – "Passionate Self-Organization" (PS).

Cluster 4 has a small number of respondents (n = 75; 20.72%) and is somewhat similar to the previous "PS", but with a significant number of dominant parameters. The dominant parameters of the fourth cluster are high levels of adaptability (x = 29.00; y = 36.00); tolerance for ambiguity (x = 30.00; y = 38.00); general level of self-regulation (x = 29.00; y = 37.00); planning (x = 7.00; y = 12.00); modeling (x = 8.00; y = 13.00); programming (x = 7.00; y = 12.00); and independence (x = 8.00; y = 10.00). This type of self-organization of student youth has been named "Tolerant Self-Organization" (TS). This type is the most dependent among all listed.

Discussion
At first glance, the self-organization of student youth is a scientific problem that should not contain any unsolved scientific problems. The self-organization of the most active part of society, namely students who are pursuing higher education, mastering a profession, conquering the podiums of the most prestigious sports forums, and actively participating in the political, public, and cultural life of their country, is a clear demonstration of self-organization in life activities, in everyday life. At the same time, the outlined processes and the elucidation of statistical results under conditions of social uncertainty are of scientific interest. The sample constructed under the conditions of martial law, perfectly matches the social uncertainty, especially since it includes respondents who have gone through specific trials. Meanwhile, retrospective analysis of the problem of self-organization and self-regulation has shown a series of contemporary studies in this context (Astle et al., 2024; García et al., 2024; Elizondo et al., 2024; Lussier et al., 2023). This indicates that scientific interest in the outlined problems is not decreasing.
The empirical results obtained (see Tabl. 1, Tabl. 2 and Tabl. 3) demonstrated that the parameters of descriptive frequency characteristics of the sample under conditions of social uncertainty do not have statistically significant differences from other dimensions. A recorded preference takes place only at the level of trends. We must admit that the COVID-19 pandemic, which inflicted irreparable physical and moral damage on humanity, initiated social mechanisms of self-organization and self-mobilization (Srivastava, 2023), which also reflected on the empirical data obtained and data with which the comparison was made. It should be noted that these trends were of scientific value at the next stage of the research – the clustering stage. The scientific value was in the fact that, as experience shows, sometimes trends can provide interesting cluster combinations, which have latent content and usually remain unrecorded at the diagnostic stage. The constructed correlation matrix (see Tabl. 4) demonstrated the variety of expected regularities between the studied parameters. They are considered expected because the selected psychological tools and applied scales predictably did not confirm the reverse statistical correlations. It is concerning that under conditions of social uncertainty, “adventurousness”, although in some adaptations of the questionnaire this scale is called “courage” (Mitroshkina, 2018), has the strongest direct correlation with “purposefulness” (R = 231; p < .001). We explain this by the fact that a high level of purposefulness and constructive ambition, characteristic of leaders of student organizations, undoubtedly borders on adventurousness, with youthful maximalism. Sometimes this brings record results and feats, as well as it can have adverse consequences and deep disappointments. The parameters of “resourcefulness” and “adaptability” are the most dependent in the context of self-organization of the subjects. Obviously, under conditions of social uncertainty, the work of adaptive resources is activated through the assimilation of social processes. It is noted that the parameter “passion” has only one correlation with “persistence” (R = 131; p = .036). This gives reason to consider passion the least controllable and, accordingly, a dangerous characteristic in the self-organization of student (x = 7.00; y = 12.00) її самостійності (x = 8.00; y = 10.00). Цей тип самоорганізованості студентської молоді отримав назву “Толеруюча самоорганізованість” (ТС). Цей тип є найбільш залежним з усіх перелічених.
youth. If we talk about the absence of statistically significant correlations in the correlation matrix (see Tabl. 4), then such a list consists of two self-organization parameters: "fixation" and "orientation to the present", and one self-regulation parameter – "results evaluation". We explain that in young people under conditions of social uncertainty, a fixating position is not dominant, since high indicators of "adaptability" (M = 25.08; SD = ±6.18) exclude such a possibility (see Tabl. 1). The parameter "present orientation" has no correlations because, under conditions of social uncertainty, the subjects, being in prolonged distress, focus on the past or future (Mascia et al., 2023; Zimbardo & Boyd, 1999). Obviously, an individual focusing on the past or future is unable to concentrate on evaluating current results. The evaluation of results is undoubtedly important, but under the outlined conditions, it takes a back seat.

The proposed types of student youth self-organization, obtained by the clustering method (see Tabl. 5), are: "Adventurous self-organization" (AS) (Cluster 1, n = 47; 12.90%); "Optimistic Self-Organization" (OS) (Cluster 2, n = 143; 39.50%); "Passionate Self-Organization" (PS) (Cluster 3, n = 97; 26.80%) and "Tolerant Self-Organization" (TS) (Cluster 4, n = 75; 20.72%) – these represent the most relevant taxonomies of the research. "Adventurous self-organization" and "Passionate Self-Organization" are conditionally classified as destructive types, while "Optimistic Self-Organization" and "Tolerant Self-Organization" are considered constructive types of student youth self-organization. This distribution provides a basis to assert that the research hypothesis has been proven. Certainly, the division is relative, and each type contains a series of dual characteristics, that allow us to ascertain both constructive and destructive intentions in self-organization and self-regulation among student youth. It is worth emphasizing that the dynamic changes in personal and professional development and the formation of young people also add a number of uncertainties that require further research. At the same time, the unification of the sample into four clusters is legitimate and possess scientific novelty and practical value.
Conclusions

It was researched and substantiated that the types of self-organization among student youth are constructive and destructive taxonomies formed as a result of clustering relevant parameters of self-organization, self-regulation, and readiness for change under conditions of social uncertainty. Twenty-five statistically significant correlations (p < .050; p < .010; p < .001) were identified, demonstrating the regular dependencies of the researched parameters. It is noted that “adventurousness”, which has the strongest direct correlation with “purposefulness” (R = .231; p < .001), poses certain risks. This is explained by the fact that a high level of purposefulness, constructive ambition typical for student organization leaders, definitely borders on adventurousness, youthful maximalism, and can bring record results and feats, as well as have adverse consequences and be accompanied by deep disappointments. Cluster analysis using the k-means method identified four types of student youth self-organization under conditions of social uncertainty: “Adventurous Self-Organization” (AS) (Cluster 1, n = 47; 12.98%); “Optimistic Self-Organization” (OS) (Cluster 2, n = 143; 39.50%); “Passionate Self-Organization” (PS) (Cluster 3, n = 97; 26.80%) and “Tolerant Self-Organization” (ТS) (Cluster 4, n = 75; 20.72%). It was substantiated that “AS” and “PS” are destructive, while “OS” and “TS” are constructive types of self-organization. The outlined types represent a successful attempt to group the empirical data array for the purpose of elucidating new knowledge. It is recommended to implement the obtained results in the structural units of higher education institutions that work with student youth.

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Ihor Holan
Svitlana Yakovleva
Inesa Hulias
Iryna Fomina
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