

# CHANGES IN SOCIAL COHESION IN THE UNIVERSITY COMMUNITY IN THE CONTEXT OF CRISIS PHENOMENA IN SOCIETY

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**Abstract.** The purpose of this study is to find out the impact of crisis conditions in society, in particular the war and the COVID-19 pandemic, on the development of social cohesion of the university community in Ukraine using the Social Cohesion Radar research tool. The study was conducted according to the methodology proposed by the Social Cohesion Radar (Bertelsmann Foundation), which helped to interpret a set of questionnaires received in 2019–2022 in the community of the National Pedagogical Dragomanov University (NPDU), Ukraine. The findings showed that the level of cohesion varies moderately by spheres and their size. Some tend to increase and some, on the contrary, to decrease. People's acceptance of diversity increased during the pandemic and decreased in both surveys in 2022, and trust in people has a steady upward trend, but the importance of social ties decreases somewhat in crisis conditions, given its growth in non-crisis times. The sphere of communication and its volume have significantly decreased, reflecting a decrease in trust in institutions, identification with them and perception of fair treatment during the pandemic, with these dimensions characterized by uneven changes in non-war and war periods in 2022. The connection with the place of work and study also decreases. This may be due to distance learning and working during certain periods in 2020 and in the wartime period of 2022. Orientation towards the common good increases with a slight decline in the military period of 2022. It is noteworthy that civic participation increases in times of crisis. According to the above data, there is an increase in some areas, and it can be said that cohesion slightly increases depending on the area, the group studied and the crisis period. The study showed changes in social stability and communications in the university community of the National Pedagogical Dragomanov University due to the impact of crisis conditions, in particular, war or pandemic. This study provides an understanding of the values of trust and social cohesion as key drivers of social behavior in different situations of social challenges, including the challenges of the war in Ukraine and the pandemic. These results can be used to study the resilience of Ukrainian society, to find the main directions and foundations of social stability.

**Key words:** education, pandemic, social cohesion, trust, the university community, values, war in Ukraine.

**JEL Classification:** B41, B49, I20, I21, I23, I29

## 1. Introduction

Modern civilizational shifts, geopolitical crises, including pandemics and military conflicts with global impact, are also becoming an integral part of our social reality and affect social cohesion. In addition, the current challenges facing education, in particular higher education, require immediate solutions for the sustainable development of society. Crisis conditions of society are subject to methodological comprehension,

practical research and further explication of the results. Social cohesion, in particular in educational communities, is currently one of the most relevant areas of research due to the demand of society (Nesterova et.al, 2022). The sudden transition of the whole world to quarantine has become a joint effort to overcome an unknown disease. This situation challenges everyone, especially the education system, because it determines the future; it is designed

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to prepare a person to overcome any unforeseen problems. It is necessary to understand the situation as interdisciplinary, complex and non-linear, and to find possible directions for the development of education that would help to overcome the socio-cultural consequences of the pandemic. Such an understanding involves, in particular, the identification of not only limitations, but also opportunities for further social and personal development that have opened up so unexpectedly. The socio-cultural challenges of the COVID-19 pandemic in Ukraine are exacerbated by division, lack of dialogue, socio-economic inequality, public distrust, distrust of social institutions, etc. Even before the pandemic, modern education faced a number of unresolved problems, as there were no strategies for the development of Ukrainian society in both public and socio-cultural and educational discourse (Oleksiyenko et al., 2020; Svyrydenko, 2017). Ukrainian higher education is indeed a specific reflection of the socio-cultural landscape, which is usually marked by a number of definitions (post-colonial, post-totalitarian, post-Soviet, transitional, etc.) (Gomilko et al., 2016; Liashenko and Rudenko, 2018; Svyrydenko and Mozgin, 2019). This creates special historically and culturally determined challenges for the mechanisms of social cohesion in various spheres of social activity, including higher education.

Turbulence and unpredictability of social dimensions requires adaptation and modernization of all spheres of public life (Colenso, 2005). Therefore, it is necessary for all social actors to realize the need to be not only adaptive, but also proactive in this unpredictable, rapidly changing world. The education system should prepare all social actors for this challenge. Therefore, one of the ideas of social development is to increase the social activity of educational institutions, especially universities (Dzimińska et al., 2018; Kantzara, 2016; Mozgin, 2019). Universities are seen as a "point of growth", as a "trigger" that triggers social change in the desired direction. That is why the authors explore the ability of the NPDU to be a socially responsible institution, an effective agent of change. The activity of higher education institutions, in particular universities, is of great importance in changing educational trends (Dworkin, 2019; Nesterova, 2020). In today's world, the most viable model of responsibility is the functioning of the university as a "social activist", taking into account not only the challenges of COVID-19, but also the threat of the expansion of the war in Ukraine.

The problem of finding drivers of social cohesion and, accordingly, sustainable development of society is constantly relevant. Divided societies, which are under the influence of geopolitical crisis and pandemic pressure, react to every social change with a negative,

unstable socio-cultural environment. The task of stimulating stable social self-organization still remains unresolved (Nesterova, & Dobronravova, 2021). Many modern educational studies have revealed new aspects of the impact of the pandemic on the cohesion of the educational community. Thus, it has already been proven in educational communities that the intensity and quality of relationships are deeply related to other social indicators and even physical indicators. Strong relationships and a sense of connectedness in educational communities (particularly in universities and schools) have been found to be important in promoting subjective well-being (Bormann and Thies, 2019; Graham et al., 2016). Therefore, since well-being is a prerequisite for facing the challenges of the pandemic, it is necessary to explore (and improve) the level of social cohesion as a type of social bond in university communities (Schlesinger et al., 2017). The choice of the research object is due to the fact that universities play an important role in social development, especially in a pandemic. This means that universities should be leaders not only of their educational communities, but also of open society communities. Social cohesion is an important social phenomenon and a powerful driver of social change. In turn, education is one of the most important areas of social cohesion. Education can also be a focus of social tensions and, at the same time, a focus of social development. The current crisis trends have been significantly intensified and multiplied by the pandemic situation in 2019. First of all, attention is drawn to the problem of virtualization of education in quarantine. Virtualization of educational processes is the main task of the modern education system – to offer new standards of teaching and learning technologies. Representatives of the university community have to cover many important issues in a pandemic – virtualization and digitalization, physical and social distance, loss of the usual dimension, etc. One of the most urgent and complex problems is disunity, which leads to the division of society and disconnected couples, enterprises and production teams: the latest challenges of social life will affect all levels of social organization. This disunity and the interruption of social communication are manifested in the educational dimension (Martins and Nunes, 2016).

Thus, these changes necessitate the study of such complex social phenomena as the concept of social cohesion. Although this concept is relatively new, its basic principles were formulated within the Council of Europe as early as 1990. There are many studies related to the concept, such as "EU Social Cohesion Policy", "Social Cohesion Radar" (Bertelsmann Foundation), "Social Cohesion Model", etc. (Dragolov et al., 2013) The study of social cohesion is necessary to analyze the parameters of social development management,

as it highlights the "weaknesses" of social relations and other significant problems of social science. Social cohesion, as the European experience shows, is one of the factors and guarantors of social stability and tolerant relations between governments and citizens in the context of global economic and political instability. It supports all large-scale organizational, structural, financial and economic changes. For several decades, the development of social cohesion has been one of the most important tasks declared in the documents, protocols and other working materials of the European Union. The *EU Social Cohesion Policy* reflects the importance of this phenomenon for European social development. In general, the *EU Cohesion Policy* has a strong impact in many fields, and it complements EU policies such as those dealing with education, employment, energy, etc. In particular, the Cohesion Policy provides the necessary investment framework and strategy to meet the Sustainable Development Goals (Europe 2020, 2010). It is also possible to consider social cohesion as one of the main working values of the European Union (support of a complex conglomerate of European countries with different levels of welfare, inclusiveness, etc.) This principle also works in other social dimensions – for example, in territorial and educational communities. It is crucial to note that "Cohesion Policy has responded quickly and effectively to the crisis with a vital degree of flexibility." (An Introduction, 2010) Hopefully, it will overcome the pandemic crisis as well.

The new social situation of the pandemic has confirmed that the current challenge for all countries (not only for the European Union or Ukraine) is to revise the real (not declared) set of values. According to this revised set of values, priorities in social and educational policy should be formulated (Nesterova et al., 2020, 2022). Values determine the level of social cohesion in society and its features as a social phenomenon. Social cohesion is based on a set of individual and collective values. Through this value platform, social cohesion can integrate modern divided societies and communities at different levels. Values are the driving force behind human behaviour and should be central to all social innovations, including education (Oder, 2005). The incredible self-organization of Ukrainian society now, after the Russian invasion, is also based on strong values of freedom, national identity, self-defense, etc.

But we can note the duality of the concept of values: "A value is a strong belief that a certain type of behavior is more important in the existing cultural continuum. Values exist in the social consciousness and are learned by the individual." (Suprun, 1987, p. 162) This duality can be demonstrated by the example of the value of social cohesion, which is perceived by the individual and realized at the level of the whole society. It can also be applied to the value of trust,

which is also personalized but "felt" at the highest levels of social organization. Trust as a phenomenon is "intrapersonal", it is manifested in the interpersonal space, "transferred" to the space of interpersonal relations. Trust lies at the heart of socio-cultural communications and is a platform for interpersonal interactions. It makes these connections between social actors subjective and deeply dialogical. The value dimension of trust is also that communication is not only and not so much informational as interpersonal (Nazaruk, 2010).

Many researchers have demonstrated that trust is a key point of social communication. Trust can also be seen as a central element and cognitive basis of social cohesion (Budnik, 2018). Without the ability to trust other people and institutions, without understanding the need to meet the reasonable expectations of partners, effective social interaction, which is the basis of socio-cultural communication, becomes problematic (Kyllönen, 2019). The pandemic situation reinforces this importance of trust even in everyday communication. The specific function of trust as a "suggestive" gateway in human communication is considered in sociological and socio-psychological terms by many researchers who note the existence of a psychological opposition of trust/distrust. Thus, trust can be attributed not only to sociological, political and psychological categories, but also to the social sphere, in particular communication, since trust is a condition for social communications based on interaction (Doktorova, 2014). The university community is a specific environment where trust plays a crucial role in establishing the required level of partnership and cohesion (Watanabe et al., 2017; White, 2018; Kapoor et al., 2018).

The main purpose of the study is to find out the impact of crisis factors for the stability of society, in particular the COVID-19 pandemic and the war in Ukraine, on the development of university communities using the tools for measuring social cohesion.

## 2. Methodology of study

The research was conducted according to the methodology developed by the Social Cohesion Radar (Bertelsmann Foundation) (Dragolov et al., 2013). The Social Cohesion Model was developed by a group of researchers from Jacobs University Bremen (Germany), who conducted a study supported by the Bertelsmann Foundation's Social Accountability Initiative. They aimed to explore the phenomenon of social cohesion as a longitudinal parameter of social development and conceptually and methodologically present the above approach to the general public for wider public awareness and discussion. Originally, the methodology of the

Bertelsmann Foundation has been published in the report *The Social Cohesion Radar – An international Comparison of Social Cohesion* (Dragolov, 2013). The Social Cohesion Model was developed by a group of researchers from Jacobs University Bremen (Germany), who conducted a study supported by the Bertelsmann Foundation's Social Accountability Initiative. They aimed to explore the phenomenon of social cohesion as a longitudinal parameter of social development and conceptually and methodologically present the above approach to the general public for wider public awareness and discussion (Dragolov et al., 2013).

A feature of the Social Cohesion Radar model is the hierarchical structure of indicators that describe the complex concept of social cohesion. It is a structure of generalized domains, each of which is described by three dimensions, which in turn are described by indicators that can be measured separately.

Thus, the domain "Social Relations" includes the following dimensions (Dragolov et al., 2013):

- Social networks,
- Trust in people,
- Acceptance of diversity.

The domain "Connectedness" contains the following dimensions (Dragolov et al., 2013):

- Identification,
- Trust in institutions,
- A perception of fairness.

The third domain, "Focus on the Common Good", covers the following dimensions (Dragolov et al., 2013):

- Solidarity and helpfulness,
- Respect for social rules,
- Civic participation.

Thus, based on the Social Cohesion Radar methodology, the analysis of social cohesion indicators is based on the following indices (behavioural characteristics). These components of the social cohesion model are described in Table 1, see Supplementary Materials, according to the original approach of the Bertelsmann Foundation.

### 3. Data collection and analysis

The survey was conducted using Google Forms. The questionnaire was distributed among the staff and students of NPDU through social networks. The survey was attended by 112 people, including 47 NPDU employees and 65 NPDU students. In 2020, 94 respondents took part in the study, including 21 NPDU employees and 73 students. In 2022, 156 respondents took part in the study, including 33 NPDU employees and 123 students. Additionally, in 2022 was held research not only in NPDU but also disseminated through other

educational institutions and the total number of participants in this research was 363. The survey was conducted voluntarily without compensation for the time spent by respondents. The second study, conducted in May-June 2020, was a continuation and extension of July 2019. In general, the 2020 survey concerns the level of social cohesion in more than five Ukrainian Higher Educational Institutes (HEIs) with more than 300 respondents. This article analyzes only one part of the May-June 2020 survey concerning the university community of the National Pedagogical Dragomanov University to compare it with previous studies on the same parameters of social communications of trust and social cohesion. The third research (2022) have been conducted twice: in January for the participants of the Winter School in the frame of the project's implementation in the National Pedagogical Dragomanov University of Jean Monnet Chair "Social Cultural Aspects of European Studies" (SCAES) 620635-EPP-1-2020-1-UA-EPPJMO-CHAIR before Russia's invasion (as a control group) and in June-August, during the war in Ukraine.

Since each dimension of the social cohesion model cannot be measured "directly", the original Bertelsmann Foundation study is based on secondary data from another questionnaire (Dragolov et al., 2013). However, the Cohesion Model allows us to collect information from the questionnaire; therefore, our team of researchers developed an adapted questionnaire to obtain the primary data. The questionnaire consists of twenty-seven questions, three questions for each area, and three questions for differentiation – male/female, student/employee of HEIs (Nesterova et al., 2019). Twenty-seven questions of the adapted questionnaire were placed in mixed order, excluding the linearity of answers. For each question, the respondent had to rate from 1 to 5 depending on their score. The questions have both an increasing scale, where 1 is a "low level" and 5 is a "high level", and an inverse scale, where 5 is a "low level" and 1 is a "high level". The score of each dimension was formed by calculating the average of three answers to the corresponding questions on an ascending scale (in the case of reverse scale questions, the value of the ascending scale was calculated accordingly). The score for each area was formed by calculating the average of the scores for the three relevant dimensions. Besides, along with the calculation of the mean, the standard deviation was calculated, which makes it possible to reflect the spread of responses and how much they may differ from the mean, ensuring the reliability of the results.

The calculation was first made for each respondent separately. Then the final calculations were made – in general, and differentiated by research groups (employees and students), respectively.

#### 4. Findings and discussion

In the previous research, the authors had already analysed social cohesion (Nesterova et al. 2019, 2020; Dielini et al. 2022). The results of the study showed an average level of social cohesion among both students and staff, with slight variations depending on the field of activity. In this study, the authors compare the level of social cohesion of the university community based on the data obtained in the previous survey, during the COVID-19 pandemic and during the war in Ukraine in 2022 to achieve the purpose of this study.

The data obtained from the results of the 2020 and 2022 studies are presented in Figure 1.

It should be noted that in 2022 two periods are compared: before the Russian invasion (this group is considered as a control group) and the period when the war began (June-August 2022). The figure shows that the highest scoring category among the respondents is the dimension "Acceptance of diversity" (4.32 out of a possible 5.00 in 2020, 4.25 in 2022 (January) and 4.19 in 2022 (war period)), which significantly exceeds other dimensions of this study. This means that both university staff and students perceive a person with different views, different values and lifestyle at an absolutely normal level. But attention should be paid to the decrease of this indicator during the war in 2022. It is noteworthy that it tends to decrease during this analyzed period.

Analyzing the results by domains, we can conclude that the most represented domain is "Social relations" (3.96 in 2020 and 3.94 in 2022 (the period of war)), which reflects the focus and importance for respondents of their relations in society. It can be stated that the indicators of this domain have the highest values, except for "Social networks"

(3.67, 3.90, 4.32 respectively in 2020 and 3.63, 4.01, 4.19 in 2022 (period)).

The lowest values in 2020 were in the dimension of "Civic Participation" (2.45), the same in 2022 (war period) (2.59), "Perception of Justice" (2.62 in 2020 and 2.76 in 2022 (war period)), "Identification" (2.86 in 2020 and 3, 08 in 2022 (the period of war)), which reflects the lower-than-average level of community involvement in public life, as well as the low level of perception of fair treatment and identification with the university and a sense of connection with it. But in 2022, a positive change can be observed even in this dimension, which indicates a gradual increase in social cohesion indicators. Some of them show different results during the year, between the two surveys – the control group in January and the second survey during the war in Ukraine.

The domain that had the lowest value in this study is "Connectedness", which includes the two dimensions described above and reflects the level of connection to the institution (in this case, to the NPDU). But it is important to emphasize that it increased after the 2020 survey (during the pandemic) and in January 2022 was equal to 3.19, although during the second survey of this year it decreased again to 3.17. It can be assumed that in crisis conditions, connectivity begins to decline.

The third area "Focus on the common good" has an average score of 3.29 in 2020 and 3.46 in 2022, where the dimension "Respect for social rules" dominates (3.81 in 2020 and 3.96 in 2022). Also, at an average level is "Solidarity and goodwill" (3.62 in 2020), which indicates a sufficient level of respect for social norms and rules, as well as a sense of responsibility for each other's well-being, especially given its increase in 2022 to 3.84.

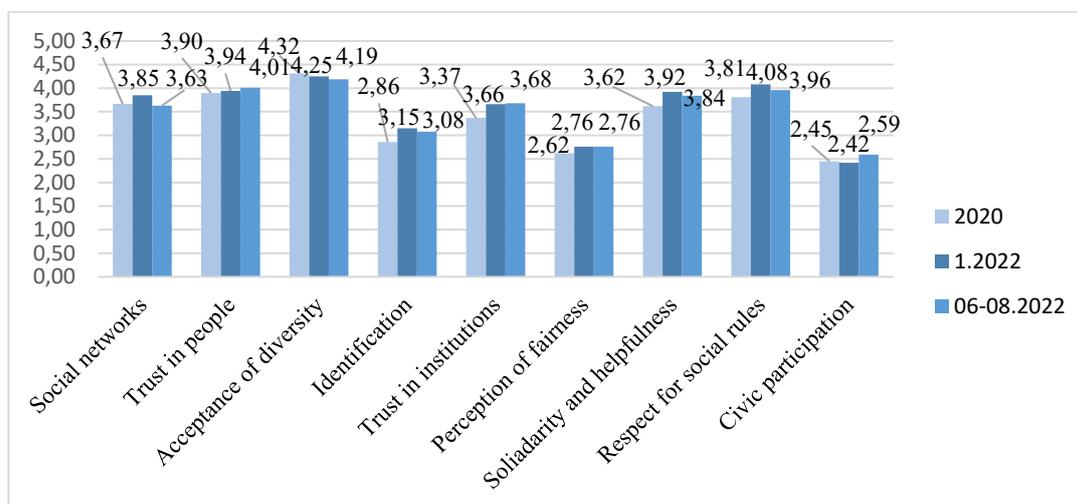


Figure 1. The level of social cohesion in NPDU by dimensions during the COVID-19 pandemic and during the war in 2022

"Civic participation" has already been described above.

A more qualitative analysis can be conducted and presented by comparing the results of 2022 and 2020 with the results of 2019. For this purpose, Table 2 and Table 3 are presented, see Supplementary Materials, which show the results of social cohesion surveys in the NPDU in 2019, 2020 and 2022.

Table 2 at Supplementary Materials contains the results of surveys in 2019, 2020 and 2022 in NPDU. Data are presented in terms of average (av.) and standard deviation (st. dev.). The result of the standard deviation shows how much the results can deviate from the mean. In this case, it is not so significant, except for the indicator "Civic participation" in the second and third surveys. The results obtained are indicative and reliable.

In this table also present the result of the entire educational community that was surveyed in 2022. This can help to compare also the result of the NPDU with the educational community. With the help of the last two tables, the changes that have occurred during this time are shown, as well as the impact of the pandemic and the war in Ukraine on the social cohesion of respondents and the comparison of data between the surveyed groups.

Thus, there were no significant changes in comparison of 2020 with the previous year: domains occupy the same positions in terms of weight of values in general according to the methodology. The domain "Social relations" is the most important in both evaluation periods, however, during the pandemic and quarantine it tended to increase (from 3.93 in 2019 to 3.96 in 2020), i.e., in general, social

relations became even more critical. At the beginning of 2022, it continued its upward trend and was estimated at 4.01, but after the Russian invasion it dropped to 3.94, which is higher than in 2019 but lower than in 2020. For the general education community, it is 3.98, which indicates a slightly higher importance of this dimension for other respondents than for NPDU staff. Figure 2 presents the domain values in 2019-2020 and in 2022 (wartime survey) in general and by groups. This figure and other figures in this article present data obtained in 2022 during the wartime survey.

The dimensions also show growth, except for "Social networks" (see Figure 3).

Let us analyze this area and dimensions among the selected groups – employees and students. It can be seen that in 2020, the dimension "Acceptance of diversity" (4.35) was the most important and significant for both NPDU employees and students (4.28). However, it should be noted that among employees, this dimension decreased (from 4.42 in 2019 to 4.35 in 2020) and continued this trend in 2022 (4.29), while among students, on the contrary, it increased from 4.18 to 4.28 in 2020, i.e., students showed more tolerance towards people who are different from themselves. But this also changed in 2022, when the result of students was even lower than in 2019. It is worth noting that the "Trust in people" dimension in general increased from 3.81 in 2019 to 3.90 in 2020 and to 4.01 in 2022, while within the groups it changed slightly. Among employees, this dimension decreased in 2020 to 3.46 from 3.70, meaning that employees trusted each other less during the pandemic, although this is

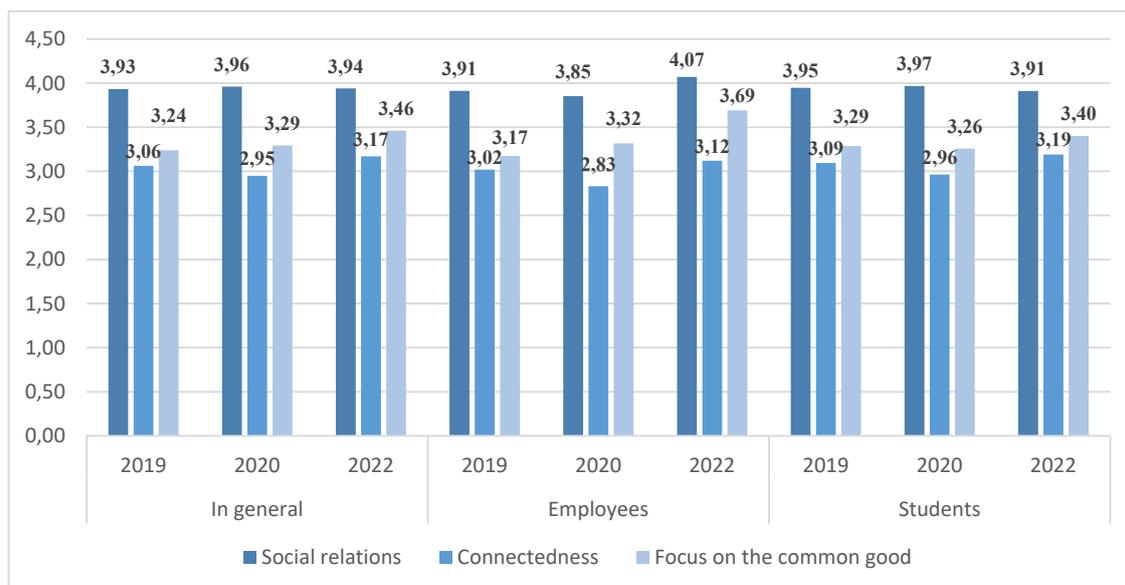


Figure 2. Domain values in 2019–2022 in general and by groups

Source: (Dielini M. et al., 2022)

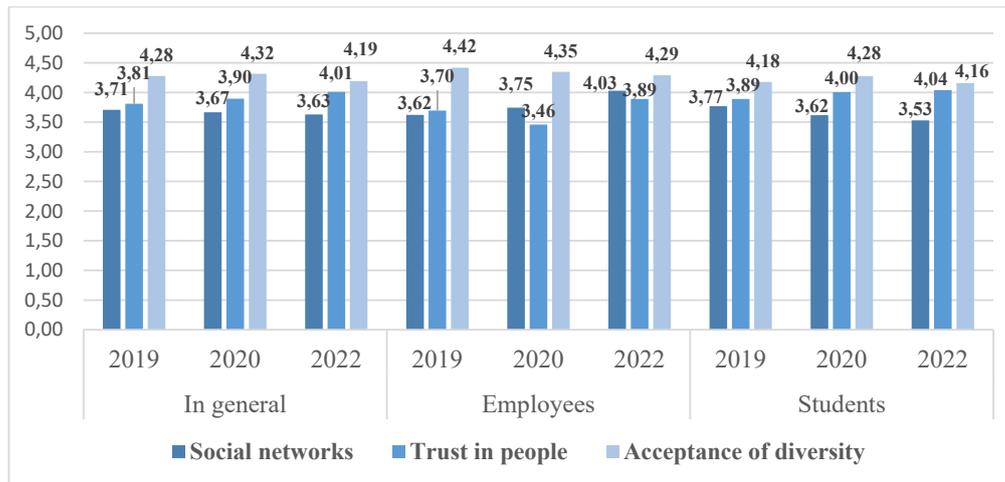


Figure 3. Changes of dimensions by domain "Social relations"

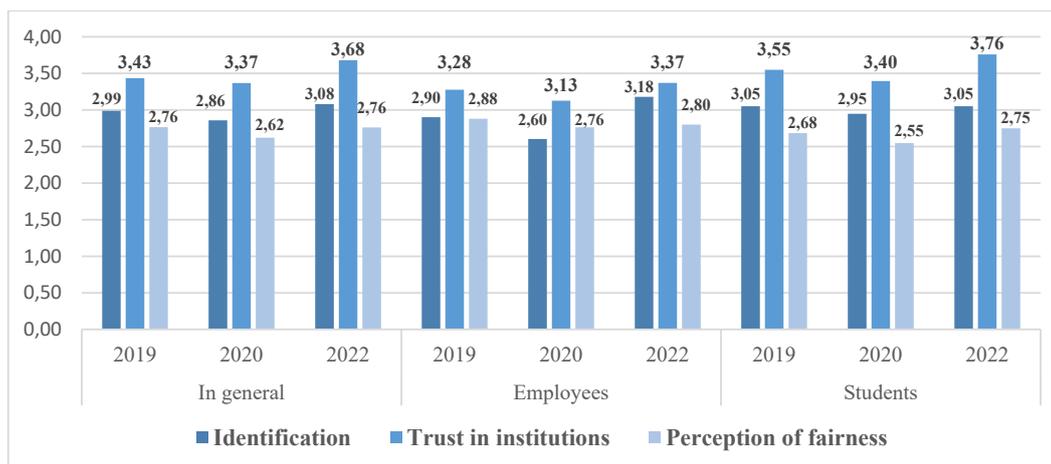
Source: (Dielini M. et al, 2022)

within the average and does not reflect any significant changes. And in 2022, it exceeded all previous results and was equal to 3.89. Among students, however, the level of trust has increased significantly – to 4.00 in 2020 from 3.89 in 2019 and to 4.04 in 2022. Thus, during the pandemic, students began to trust each other even more than the previous year. And the same trend during the war. The total result for this dimension has a steady upward trend during 2019–2022. The "Social networks" dimension has decreased in general, and the following changes have occurred among the study groups: employees have increased their social networks from 3.62 (2019) to 3.75 (2020) and to 4.03 (2022), and students have had an almost equivalent decrease – to 3.62 in 2020 from 3.77 in 2019 and even more in 2022 – 3.53. These criteria reflect a decrease in the importance of this dimension, but, in general, it has an average importance, so it does not lose its importance. The dimension "Social networks" for the entire educational community has almost the same result as for the NPDU, but slightly higher – 3.70. If to compare the research of the beginning of 2022 and the middle of this year, it can be seen that social networks were more important before the Russian invasion of Ukraine (3.85 in January and 3.63 in the middle of the year). It is also worth noting that in 2019 it was higher than in 2020 (during the pandemic), then grew, followed by a drop during the war. It can be concluded that in times of crisis, social networks are less important than in other times.

In 2020 and 2022, during the pandemic and its quarantine measures, as well as the war, the dimensions "Acceptance of Diversity" and "Social Networks" were more important for employees, and "Acceptance of Diversity" and "Trust in People" were more important for students. In other words, this is

different from the situation that was before, when trust in others in the university environment was more important for employees than social connections. The second domain "Connectedness", which reflects the connection and trust in one's institution, has the lowest value in both cases, which is generally at an average level, but tends to decrease significantly as the COVID-19 pandemic develops and increases in 2022. In 2020, it decreased by 0.11 points compared to the previous year and stands at 2.95. This decrease is noticeable in both groups of respondents, but most pronounced among employees – from 3.02 in 2019 to 2.83 in 2020, which correlates with a decrease in trust in people from the previous domain. There is also a decrease in this area among students – from 3.09 to 2.96. All of these dimensions have decreased (see Figure 4). The greatest cohesion is observed in the dimension of "Trust in Institutions": the indicator decreased to 3.37 from 3.43; among employees – to 3.13 from 3.28, and among students – to 3.40 against 3.55 in the previous year. Instead, in 2022, connectedness increased significantly in all groups of respondents: from 2.95 to 3.17 in general, from 2.83 to 3.12 among employees and from 2.96 to 3.19 among students. This means that the crisis state of society has different impacts on different dimensions and areas. The war affects the fact that people feel more connected to the community, trust institutions more, etc. The result of these indicators for the entire educational community is slightly higher than for the NPDU – 3.21. But there is an interesting case: this sphere had a higher result before the war than after the invasion (3.19 in January and 3.17 during the war).

The dimension "Identification" decreased from 2.99 in 2019 to 2.86 in 2020 and increased to 3.08 in 2022 for the NPDU as a whole: among employees it



**Figure 4. Changes in the dimensions of the "Connectedness" domain**

Source: (Dielini M. et al., 2022)

decreased to 2.60 in 2020 from 2.90 in the previous year and increased to 3.18 in 2022, and among students it decreased to 2.95 in 2020 from 3.05 in 2019 and reached this result again in 2022. This decrease is significant as it reflects the deterioration of communication with the university community. In the case of employees, this level was below average, although not reaching significantly lower levels. The decline could be caused by quarantine measures, when work and study took place remotely, and therefore identification with the NPDU decreased somewhat. But further growth is also significant. It is worth noting that this growth at the beginning of 2022 was 3.15, while after the invasion it dropped again to 3.08. That is, in crisis conditions, it is possible to observe a decrease in this dimension for the second time.

The dimension "Trust in Institutions", which reflects the level of trust in the NPDU, ranks first in this area and is equal to 3.68 in 2022 (the period of war) and 3.37 in 2020 against 3.43 in 2019. That is, it fluctuated during this period. By groups, this indicator also slightly decreased in 2020, and for staff it was 3.13 in 2020, which is 0.15 less than the previous year. The same difference is observed among students – 3.40 (2020) vs. 3.55 (2019). This trend reflects a decrease in trust in their institution during the pandemic, which can be explained by the general depressed state of people in such circumstances. In contrast, in 2022, this indicator increased significantly in both analyzed periods: January – 3.66 and during the war – 3.68. Analysis by groups during the war and comparison with 2020 shows the same results: in mid-2022, this dimension increased to 3.37 for employees and 3.76 for students.

The feeling of fair treatment is manifested in the results of the area "Perception of fairness": it is the lowest in all the years studied and also fluctuated:

a decrease from 2.76 (2019) to 2.62 (2020) and a subsequent increase to 2.76. The perception of fair treatment by employees decreased from 2.88 in 2019 to 2.76 in 2020 and increased to 2.80 in 2022, and by students – decreased from 2.68 to 2.55 with a subsequent increase in 2022 to 2.75. Comparing the control group and the analyzed group in 2022 gives similar results.

In general, the result of this domain can be explained by the fact that during the pandemic, a strict quarantine was introduced in the host country and all teaching and learning took place remotely; a person who was depressed at the beginning could transfer their worries about the future to university studies. But before the war, all these restrictions were not so noticeable, people could communicate face-to-face, started to study offline, etc. and the value of this domain grew, while with the beginning and continuation of the war, "Connectedness" lost its importance again. For more qualitative conclusions, it is necessary to conduct further in-depth research on the factors of such changes in the cohesion of the survey participants. If to compare the results in this area and dimensions (for the period of war) between the NPDU and the whole educational community, we can conclude that there is no big difference, but in some dimensions (Identification, Trust in institutions) the whole community has slightly higher indicators than the NPDU.

The area "Orientation towards the common good" reflects how people are oriented towards the community as a whole, how they understand dependence on each other and responsibility. In general, the indicator of this area has a slight increase from 3.24 (2019) to 3.29 (2020) and a significant increase in January 2022 to 3.47 with a slight decrease during the war by 0.01 points, but there are some differences between groups

in changes: among staff, this area increased from 3.17 to 3.32 (2020) and to 3.69 (2022 (war period)), and among students, it decreased from 3.17 to 3.26 (2020).) and to 3.69 (2022 (war period)), and among students it slightly decreased – from 3.29 (2019) to 3.26 (2020) with a further increase to 3.40 in 2022 (war period). These results reflect some small changes in these groups in terms of cohesion towards community orientation, mutual respect for others and responsibility for their actions.

Figure 5 presents changes in the dimensions of the "Orientation towards the common good" domain.

The most prominent area in the university community is "Respect for social rules" – 3.96 in 2022 vs. 3.81 in 2020 vs. 3.64 in 2019 – which has increased significantly during the quarantine and war and reflects the level of respect and compliance with rules and regulations. But the comparison within 2022 shows that at the beginning of the year, before the Russian invasion, "Respect for rules" was higher than after the war started. The increase can be explained by the responsible attitude to changes and quarantine requirements among university staff from 3.66 (2019) to 3.98 (2020) and to 4.10 (2022 (war period)), as well as among students – from 3.63 to 3.74 in 2020 and 3.92 in 2022 (war period). Thus, respect for norms is growing in both study groups.

"Solidarity and helpfulness" also ranks high. However, it has decreased compared to 2019 – from 3.67 to 3.62 in 2020 and increased again in January 2022 to 3.92 with a subsequent decrease to 3.84, reflecting a decrease in responsibility for each other and concern for each other's well-being during both the pandemic and the war. Changes are also taking place in groups: for employees, this dimension decreased from 3.65 (2019) to 3.51 (2020) and significantly increased in 2022 (war period) to 4.01,

and for students it decreased from 3.69 (2019) to 3.60 (2020) with a subsequent increase to 3.79 in 2022 (war period). But it is worth conducting a follow-up study to compare between groups of employees and students between control respondents and respondents who participated in the second study in 2022.

"Civic engagement", which reflects participation in public or political life, slightly increased during the study period to 2.45 in 2020 and 2.59 in 2022 (war period), but is at a rather low level and exceeds the average only during the war. It is worth noting that the engagement of employees increased from 2.21 (2019) to 2.46 (2020) and to 2.95 (2022 (war period)), while among students, on the contrary, it decreased – from 2.53 to 2.43 in 2020 with an increase to 2.50 in 2022. This indicates that employees become more active members of society during a pandemic, while students are less likely to be socially active during positive changes during war. It is noteworthy that in January 2022, this dimension decreased to 2.42 compared to 2020 with a further increase. This confirmed our assumption about the importance of this dimension in crisis conditions. Comparison with the whole educational community shows that within this sphere the difference in the obtained results is not great, but the civic activity of the NPDU respondents is higher than in others.

## 5. Conclusions

The authors obtained the results by comparing the level of social cohesion of the university community in 2020, which takes place in the context of the COVID-19 pandemic, with the indicators of 2019 and 2022, before and after the Russian invasion. The data obtained and analyzed in the study showed that the level of cohesion varies moderately

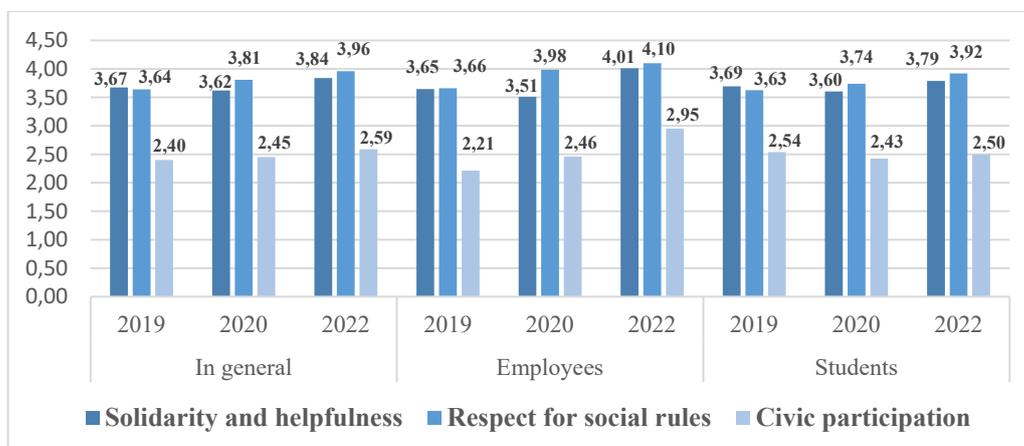


Figure 5. Changes in the dimensions of the "Focus on the common good" domain

Source: (Dielini M. et al., 2022)

by areas and their dimensions. Some tend to increase, and some, on the contrary, to decrease. People's perception of diversity in each other increased in 2020 and decreased in 2022. Trust in people is growing, but the importance of social ties is slightly decreasing. The scope of connections and its volume decreased significantly in 2020, reflecting lower levels of trust in, identification with, and perception of fair treatment by institutions. The connection between work and study is decreasing in all study groups. The reason may be distance learning and work during certain periods in 2020. But in January 2022, this area increased and its result exceeded the result of 2019 with a further decline. There is a growing orientation towards the common good, namely in civic engagement and compliance with social norms. According to the data, in some areas there is an increase, and in some areas, it can be said that cohesion is growing insignificantly, depending on the area and the group studied. The results show that social cohesion does not develop equally in times of crisis: there is a difference in results between the period of the pandemic and the war in Ukraine.

At the same time, one of the most critical factors of social development – trust and social cohesion – are certain indicators of the adaptability of social systems to the complex challenges of the crisis in society, in particular, the war in Ukraine and the COVID-19 pandemic. Effective social communications, which are formed by interpersonal relationships, are based on the values of trust and social cohesion. The pandemic has shown that its challenges require not only theoretical research, but also practical methods of implementation, development of trust and social cohesion of different types of communities (territorial, educational, etc.). Important tasks in this direction are assigned to the educational sphere, in

particular to university communities, which should promote the implementation of such values as trust and social cohesion. It is noticed that during quarantine the educational environment is transformed for many reasons. Among them are the following: online teaching and learning processes, the virtual dimension of communication, social and physical distancing between teachers and students, lack of non-virtual communication between students, etc. Thus, it can be stated that the pandemic has affected the social communications of the university community. The study showed changes in social communications in the educational community of the National Pedagogical Dragomanov University due to the impact of the pandemic. This study gives insights into the values of trust and social cohesion as key drivers of social behavior in different situations of social challenges, including pandemic challenges.

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**Supplementary Materials**

Table 1  
**Social Cohesion Model Radar (Dragolov et al., 2013)**

Domain	Dimension	Description (people in this society...)
<b>Social relations</b>	Social networks	– have strong social networks and connections
	Trust in people	– highly trust each other
	Acceptance of diversity	– consider individuals with different values and lifestyles on an equal footing
<b>Connectedness</b>	Identification	– feel a strong connection with the community and identify with it
	Trust in institutions	– have high confidence in institutions
	Perception of fairness	– feel fair to themselves
<b>Focus on the common good</b>	Solidarity and helpfulness	– feel responsible for each other and each other’s well-being
	Respect for social rules	– respect and adhere to norms and rules
	Civic participation	– involvement in social and political life

Table 2  
**The overall score for NPDU’s social cohesion by domains and dimensions**

Domain and dimensions	2019		2020		01.2022		06-08.2022	
	Av.	St. Dev.						
Social networks	3.71	0.71	3.67	0.68	3.85	0.80	3.63	0.82
Trust in people	3.81	0.67	3.90	0.68	3.94	0.63	4.01	0.61
Acceptance of diversity	4.28	0.68	4.32	0.59	4.25	0.71	4.19	0.59
<b>Domain "Social relations"</b>	<b>3.93</b>	<b>0.49</b>	<b>3.96</b>	<b>0.45</b>	<b>4.01</b>	<b>0.51</b>	<b>3.94</b>	<b>0.54</b>
Identification	2.99	0.79	2.86	0.8	3.15	0.81	3.08	0.93
Trust in institutions	3.43	0.73	3.37	0.82	3.66	0.70	3.68	0.79
Perception of fairness	2.76	0.64	2.62	0.59	2.76	0.59	2.76	0.51
<b>Domain "Connectedness"</b>	<b>3.06</b>	<b>0.44</b>	<b>2.95</b>	<b>0.56</b>	<b>3.19</b>	<b>0.53</b>	<b>3.17</b>	<b>0.52</b>
Solidarity and helpfulness	3.67	0.75	3.62	0.7	3.92	0.72	3.84	0.75
Respect for social rules	3.64	0.74	3.81	0.71	4.08	0.69	3.96	0.64
Civic participation	2.40	0.98	2.45	1.10	2.42	1.01	2.59	1.01
<b>Domain "Focus on the common good"</b>	<b>3.24</b>	<b>0.57</b>	<b>3.29</b>	<b>0.66</b>	<b>3.47</b>	<b>0.63</b>	<b>3.46</b>	<b>0.62</b>

Table 3  
**The resulting table for assessing social cohesion in the NPDU by groups, 2019–2022 and all educational community in 2022\***

Domain and dimensions	Study 2019			Study 2020			Study 2022 (war period)			
	IG*	E*	S*	IG	E	S	IG	E	S	Whole ed.com
Social networks	3.71	3.62	3.77	3.67	3.75	3.62	3.63	4.03	3.53	3.70
Trust in people	3.81	3.70	3.89	3.90	3.46	4.00	4.01	3.89	4.04	4.01
Acceptance of diversity	4.28	4.42	4.18	4.32	4.35	4.28	4.19	4.29	4.16	4.22
<b>Domain "Social relations"</b>	<b>3.93</b>	<b>3.91</b>	<b>3.95</b>	<b>3.96</b>	<b>3.85</b>	<b>3.97</b>	<b>3.94</b>	<b>4.07</b>	<b>3.91</b>	<b>3.98</b>
Identification	2.99	2.90	3.05	2.86	2.60	2.95	3.08	3.18	3.05	3.14
Trust in institutions	3.43	3.28	3.55	3.37	3.13	3.40	3.68	3.37	3.76	3.73
Perception of fairness	2.76	2.88	2.68	2.62	2.76	2.55	2.76	2.80	2.75	2.76
<b>Domain "Connectedness"</b>	<b>3.06</b>	<b>3.02</b>	<b>3.09</b>	<b>2.95</b>	<b>2.83</b>	<b>2.96</b>	<b>3.17</b>	<b>3.12</b>	<b>3.19</b>	<b>3.21</b>
Solidarity and helpfulness	3.67	3.65	3.69	3.62	3.51	3.60	3.84	4.01	3.79	3.90
Respect for social rules	3.64	3.66	3.63	3.81	3.98	3.74	3.96	4.10	3.92	4.02
Civic participation	2.40	2.21	2.53	2.45	2.46	2.43	2.59	2.95	2.50	2.45
<b>Domain "Focus on the common good"</b>	<b>3.24</b>	<b>3.17</b>	<b>3.29</b>	<b>3.29</b>	<b>3.32</b>	<b>3.26</b>	<b>3.46</b>	<b>3.69</b>	<b>3.40</b>	<b>3.46</b>

\*The table is built on the basis of Dielini M. et al. 2022 and Nesterova et al. 2022

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