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Katrien Dercon, Mateusz Domaradzki, Herman T. Elisenberg, Aleksandra Głos, Ragnhild Handeland, Agnieszka Popowicz and Jan Piasecki

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Article abstract

The COVID-19 pandemic disrupted academic life worldwide for students as well as educators. The purpose of this study is to shed light on the collective adversity experienced by international medical students and bioethics educators caused by the COVID-19 pandemic in relation to both personal and academic life. The authors wrote their subjective memoirs and then analyzed them using a collective autoethnography method in order to find the similarities and differences between their experiences. The results reveal some consistent patterns in experience that are captured in two metaphors: *Falling apart* and *Bouncing back*. “Falling apart” involves the breakdown of daily lives during the initial stages of the pandemic, shown through subjective quotes contextualized through the authors’ commentary. The consensus is that returning home and the transition to remote education were the two main reasons for the breakdown. “Bouncing back” encompasses the authors’ recovery after the initial breakdown, achieved by acquiring new information about the virus, discovering how to continue their hobbies at home, such as working out or dancing, and learning to adjust exam expectations. At the educational level, the bioethics course, which guided students through the ethical dilemmas of the pandemic, played an important role in the recovery/bouncing back process. For that reason, we report on how it was to learn about and teach this subject during the pandemic, and how bioethics knowledge was applied for better understanding and coping with some of the moral dilemmas related to the pandemic. The study testifies to the importance of bioethics education during a pandemic and explains how this can contribute to shaping the moral resilience of future medical practitioners.

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**ARTICLE** (ÉVALUÉ PAR LES PAIRS / PEER-REVIEWED)

# COVID-19: Falling Apart and Bouncing Back. A Collective Autoethnography Focused on Bioethics Education

Katrien Dercon[a], Mateusz Domaradzki[a], Herman T. Elisenberg[a], Aleksandra Głos[b], Ragnhild Handeland[a], Agnieszka Popowicz[a], Jan Piasecki[c]

**Note:** All authors made a similar contribution to the manuscript so are listed in alphabetical order, except for JP, who is the corresponding author.

**Résumé**

La pandémie de COVID-19 a perturbé la vie universitaire dans le monde entier, tant pour les étudiants que pour les éducateurs. L'objectif de cette étude est de mettre en lumière l'adversité collective vécue par les étudiants internationaux en médecine et les éducateurs en bioéthique, causée par la pandémie de COVID-19, tant sur le plan personnel que sur le plan académique. Les auteurs ont rédigé leurs mémoires subjectives et les ont ensuite analysées à l'aide d'une méthode d'auto-ethnographie collective afin de trouver les similitudes et les différences entre leurs expériences. Les résultats révèlent des schémas cohérents dans l'expérience qui se traduisent par deux métaphores : *s'effondrer* et *rebondir*. « S'effondrer » désigne l'effondrement de la vie quotidienne au cours des premières phases de la pandémie, illustré par des citations subjectives mises en contexte par les commentaires des auteurs. Le consensus est que le retour au pays et la transition vers l'enseignement à distance ont été les deux principales raisons de l'effondrement. Le terme « rebondir » englobe le rétablissement des auteurs après la rupture initiale, grâce à l'acquisition de nouvelles informations sur le virus, à la découverte de moyens de poursuivre leurs passe-temps à la maison, tels que l'entraînement ou la danse, et à l'apprentissage de l'adaptation des attentes en matière d'examens. Au niveau éducatif, le cours de bioéthique, qui a guidé les étudiants à travers les dilemmes éthiques de la pandémie, a joué un rôle important dans le processus de récupération et de rebond. C'est pourquoi nous expliquons comment il a fallu apprendre et enseigner cette matière pendant la pandémie, et comment les connaissances en bioéthique ont été appliquées pour mieux comprendre et faire face à certains des dilemmes moraux liés à la pandémie. L'étude témoigne de l'importance de l'éducation à la bioéthique pendant une pandémie et explique comment elle peut contribuer à former la résilience morale des futurs praticiens médicaux.

**Mots-clés**

autoethnographie, bioéthique, COVID-19, infodémie, enseignement médical, enseignement en ligne, santé publique, résilience morale

**Abstract**

The COVID-19 pandemic disrupted academic life worldwide for students as well as educators. The purpose of this study is to shed light on the collective adversity experienced by international medical students and bioethics educators caused by the COVID-19 pandemic in relation to both personal and academic life. The authors wrote their subjective memoirs and then analyzed them using a collective autoethnography method in order to find the similarities and differences between their experiences. The results reveal some consistent patterns in experience that are captured in two metaphors: *Falling apart* and *Bouncing back*. "Falling apart" involves the breakdown of daily lives during the initial stages of the pandemic, shown through subjective quotes contextualized through the authors' commentary. The consensus is that returning home and the transition to remote education were the two main reasons for the breakdown. "Bouncing back" encompasses the authors' recovery after the initial breakdown, achieved by acquiring new information about the virus, discovering how to continue their hobbies at home, such as working out or dancing, and learning to adjust exam expectations. At the educational level, the bioethics course, which guided students through the ethical dilemmas of the pandemic, played an important role in the recovery/bouncing back process. For that reason, we report on how it was to learn about and teach this subject during the pandemic, and how bioethics knowledge was applied for better understanding and coping with some of the moral dilemmas related to the pandemic. The study testifies to the importance of bioethics education during a pandemic and explains how this can contribute to shaping the moral resilience of future medical practitioners.

**Keywords**

autoethnography, bioethics, COVID-19, infodemic, medical education, online education, public health, moral resilience

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## INTRODUCTION[1]

During the COVID-19 pandemic, we witnessed global waves of infections: initially, the number of infections were rising, but effective public health interventions led to a reduction in the numbers, and eventually restrictions were loosened. These waves of cases and restrictions caused changes in students' and educators' attitudes toward the pandemic and public health interventions. In this collective autoethnographic study, a research team comprising two bioethics educators and five medical students describe and analyze how the public health interventions targeting the spread of the SARS-CoV-2 virus affected the education of first-year medicinal students, and what role online classes in bioethics played in their understanding of the social and cultural circumstances of the pandemic. The sudden change of the educational situation can, we argue, reveal the hidden aspects of the biomedical curriculum (5) that are not otherwise visible. Moreover, it can also help in understanding the role of bioethics in the socialization of first-year medical students.

The Medical College of the Jagiellonian University in Krakow arranges its medical program to last six years in accordance with Poland's legal requirements. The first year tackles "Ethics in medicine" in a 30-hour seminar together with courses in anatomy, physiology, biochemistry, histology, history of medicine, and genetics (6). According to the formal curriculum, the aim of bioethics training ("Ethics in medicine") is threefold: first, to give students the ability to perceive the ethical dimension of medical practice; second, to familiarize students with fundamental schools of moral thought and typical methods of ethical reasoning and argumentation; and third, to prepare students for future ethical problem-solving in their medical practice based on rational argumentation. The main topics in the training are patient rights, communication with patients and their families in an atmosphere of trust, clinical research ethics, and focus on patient well-being. Due to the pandemic, bioethics educators emphasised topics associated with public health ethics, scarce resources allocation, and epidemiology ethics. In the existing literature, the main objectives of bioethics classes for medical students can be grouped into three categories: cognition, behaviour, and attitude (7,8). Cognitive goals encompass the ability to discern and resolve ethical dilemmas using concepts and arguments that are grounded in ethical theories. Behavioural goals are met when knowledge about ethical theories and ethical standards, coupled with the skills of ethical reasoning, results in ethical behaviour such as obtaining valid informed consent or determining whether it is justified to withhold some information from a patient. Finally, attitude may refer to the concept of virtue, which can be broadly defined as a habitual disposition to fulfill one's professional duties (9). However, measuring both behavioural and attitudinal goals during formal assignments in class is challenging, leading to a debate on whether the bioethics class should prioritize these goals (7).

COVID-19 is a new human transmissible coronavirus. At the early stage of the pandemic, fever, cough, sore throat, and headaches were reported as the only symptoms (10). As the virus spread globally, lockdowns became a standard response in many countries to control transmission and halt its unknown effects. To achieve this, social interaction was limited, and movement was restricted to only essential purposes, such as food shopping and exercise. However, although lockdowns were effective at reducing transmission rates, they did not come without a burden. Pain and sacrifice endured include, but are not limited to, an increased number of deaths from other diseases (11), the ongoing effects on mental health and suicide (12), and the tragedy of many loved ones dying alone (13).

The outbreak of the COVID-19 pandemic was a challenge to educational systems around the world, forcing most universities to move their classes online in a very short period of time. This rapid digital transition was accompanied by numerous technological, organizational, and socioeconomic challenges. A lack of technological infrastructure and digital competence was widespread among both professors and students (14,15). Many studies report that online education during the pandemic

[1] **Glossary**

| | |
|---|---|
| *Autoethnography* | a type of research where a researcher and their experiences are the subject of study |
| *Collective autoethnography* | a type of research where the researchers and their (shared) experience comprise the subjects of study |
| *Moral distress* | "the psychological distress of being in a situation in which one is constrained from acting on what one knows to be right due to the presence of institutional or external constraint" (1) |
| *Moral injury* | "moral suffering characterized by exposure to circumstances that violate one's moral values and beliefs in ways that erode integrity, moral capability, perception of basic goodness, and create distress on a psychological, behavioral, social, or spiritual level" (2) |
| *Moral resilience* | "the capacity of an individual to preserve or restore integrity in response to moral adversity, including situations that include moral complexity, confusion, distress or setbacks" (2,3) |
| *Moral efficacy* | the capacity to stand up for what one believes to be correct, even when faced with resistance |
| *Self-regulation* | "awareness of one's psychological and somatic states" (1) |
| *Self-stewardship* | "paying attention to one's well-being while being aware of one's limits; and moral efficacy requires advocating for what one believes is correct, even when there is resistance" (1) |
| *Idiosyncrasies* | certain behaviors, behavioral patterns, or beliefs sustained by an individual |
| *GAD score* | a numerical score based on a self-report two-item anxiety scale that was used to track the progress of generalized anxiety disorder in a set of medical students |
| *Remote education* | a type of education referring to the distance between the learner and the educator or the learner and the institution/educational resources |
| *Distance education* | a type of education referring to the distance between viewpoints and perspectives, where interaction takes place between different parties with varying understanding or values regarding the topic of discussion |
| *Infodemic* | "too much information including false or misleading information in digital and physical environments during a disease outbreak. It causes confusion and risk-taking behaviors that can harm health" (4) |

exposed and further deepened existing socioeconomic inequalities, since students from poorer socioeconomic backgrounds often had no access to the necessary technical equipment and decent working conditions (16-18). Other obstacles included heavy workload, difficulties in conducting exams online, and the incompatibility of some subjects (e.g., clinical medicine) with the online mode (14,15). Therefore, as Hodges et al. rightly clarify (19), the accelerated digital transition should be understood as an instance of “MacGyvered” (improvised) experiment of “emergency remote teaching” rather than proper online courses. Preparation of such online courses usually takes many months and is evaluated accordingly. Nevertheless, this “emergency remote teaching” experiment brought some developments. A series of survey-based studies report some advantages, such as boosted confidence in the effectiveness of online medical education (20), research and technological innovations and socioeconomic interventions (14), as well as expressing educators’ readiness to transition to online teaching and the necessity to incorporate such training into professional education (21). A majority of existing studies, however, analyze educators’ perspectives with limited reference to medical subjects and bioethics. Moreover, Byron Good argues that studying medicine goes beyond acquiring certain knowledge and skills but should be seen as a process of acculturation to a specific (medical) worldview (22). In this context, bioethics serves an important role in connecting the biomedical worldview with common morality. The relevant studies that were available at the time of writing our paper (2021-2022) were limited in number and scope, primarily concentrating on the organizational and technical difficulties of online medical education (e.g., the question of how such a practice-oriented profession as medicine can be taught in an online setting). The literature did not go into great detail on issues relating to the unique nature of bioethics education, such as how to develop sensitivity for particular values and virtues, how to spark meaningful conversation, how to encourage ethical decision-making, or how to offer role models in an online environment. Neither were the students’ voices sufficiently sought. More research is needed in this area to better understand the challenges and opportunities of online bioethics education. In this regard, our study contributes to the field because it qualitatively captures the dynamics of both teaching and learning experiences.

Our research endeavour was a form of collaborative autoethnography, focusing on the experiences of educators and students in online bioethics classes during the COVID-19 pandemic. In a collective autoethnography, a group of researchers gives voice to their individual, personal perspectives and then summarize and analyze their shared experience in a more systematic manner (23,24). Due diligence to make the process of research and writing inclusive, multivocal, and collaborative was achieved through consensus decision making, which is part of the norms for collective autoethnographic research (24).

Autoethnography has already been successfully used for dealing with the professional and personal experience of educators (25), as well as several different areas where the boundaries between research and individual experience matter (26). However, to our knowledge, there is no similar study describing the shared experience of students and educators, while, most importantly, focusing on the subject of bioethics education. Considering that the COVID-19 pandemic has given rise to poignant ethical dilemmas and moral distress among medical practitioners, our focus on the role of bioethics education in understanding and addressing these challenges opens avenues for future research on the relationship between bioethics education and moral resilience during times of crisis (27). Ethical reflection allows us to analyze and understand the roots of moral distress, helping to comprehend human behaviour and, as a result, enabling individuals to cope with moral distress. According to Delgado et al., moral distress arises when a healthcare professional is unable to act in accordance with their moral beliefs and values due to external constraints or limitations (1). The pandemic provoked many situations where healthcare professionals had to adhere to institutional or public health regulations that went against what they saw as the best interests of their patients. An example would be when they had to adopt strict triage and resource allocation criteria or deny access of family members to the hospitalized (or even dying) patients due to public health restrictions, which produced moral distress or even moral injury. The bioethics class – which offers specific criteria to make informed moral judgments, discusses various ethical frameworks and explains their applications to different situations, trains students in resolving moral conflicts – can, we suggest, help to mitigate the moral and mental burden of such decisions in the future.

In the following sections, we describe our individual and group experience of studying and teaching bioethics as a part of medical curriculum. Our analysis will go beyond the description of individual perspectives, and we discern some common motifs in our individual experiences. We also think that our experience can be a point of departure for future research that may deepen understanding of how individuals become better medical students, and in consequence, better physicians.

## METHODS

### Research team (students + teachers) = participants

In a collective autoethnography, the researchers are also the research participants. Our team comprised two bioethics educators with backgrounds in philosophy, bioethics, and law, and five second-year medical students (at the time of data collection) of the School of Medicine in English at the Jagiellonian University Medical College (Kraków, Poland) (Table 1).

**Table 1. Demographic of the research team**

| Research sample | 7 |
|---|---|
| Educators | 2 |
| Students | 5 |
| Male | 3 |
| Female | 4 |

| Home country | |
|---|---|
| Poland | 3 |
| Norway | 2 |
| UK | 1 |
| Austria/Ecuador | 1 |

A further nuance is that our study was also an online ethnography, because it covered our online experience with remote learning to a certain extent, and the research project itself had a purely online character: since the inception of the idea for the research project, the members of the research team have never met in person, relying only on online communication.

## Collective autoethnography as a methodological choice

We applied a collective autoethnographic method that captures individual experiences in certain circumstances and juxtaposes these with others' individual perspectives through a common deliberation. This approach was well suited to addressing the main research question: "How did the COVID-19 pandemic and public health measures countering the spread of the virus affect the bioethical education of medical students?"

Sara Delamont (28) has criticized the autoethnographic method, contrasting it with the autobiographical reflexivity of an ethnographer. She defines autoethnography in a narrow sense as ethnography whose "topic or focus is the author herself or himself". However, our research deviates in two respects from this very strict conception: 1) we focus on our experiences as students and as educators during the COVID-19 pandemic; and 2) as a collective autoethnography, we combine our individual experiences to look for possible patterns. Moreover, in the first phase, our research had an *in statu nascendi* character, insofar as it was in the writing process itself that we were able to realize the exact nature of our experiences. In the second phase, we collected the seven memoirs, and we reflected not only on our individual experiences but also on the experience of our co-researchers. Therefore, in that sense, our method meets Delamont's requirement of understanding ethnography: initially, we made the strange pandemic experience more familiar, and in the second phase, our already familiar experiences, internalized through the writing process, were seen in a new (unfamiliar) context, revealing patterns that became visible only when individual memoirs were juxtaposed with others' memoirs.

## Data collection

On Sept. 19, 2020, JP – a bioethics educator – gathered together a research team composed of his former students and a fellow educator to collectively work on a paper on the COVID-19 pandemic and bioethical education. Due to public health measures, the research team worked remotely, using MS Teams for meetings and sharing documents. The research team was diverse, and its members had different levels of knowledge and skills regarding research and academic writing. Five members of the team were second-year medical students, who had not had any previous training in social science research. Therefore, to provide all the research team members with the necessary knowledge and skills, JP held online meetings to discuss the methodology of qualitative research, ethical problems, and practical aspects of scientific publications.

During the first team meetings, it was decided that all issues concerning the project would be solved through consensus. First, the team formulated a research question: "What is the impact of the COVID-19 pandemic and public health measures on the experience of studying and teaching bioethics?" Next, the team decided on a methodological approach and data collection methods. A collective autoethnography was the method of choice, as it allowed the team to focus both on personal and collective experiences.

The research team decided that every member would write a personal memoir of the previous spring semester (Feb.-June 2020), which was when the COVID-19 pandemic began, and the public health measures drastically transformed academic life. That period was still fresh in the research team members' memory and the main goal of writing a memoir was to gain perspective on one's own individual experience. Initial discussions of experiences during the first period of the COVID-19 pandemic revealed a broad scope of different topics that could be described and discussed in the memoirs. Therefore, the team decided that the memoirs should be three to ten pages long and focus on three broad topics: 1) "Studying/teaching bioethics during the COVID-19 pandemic", which covered important experiences from the pandemic as seen through the lens of bioethics; 2) The "existential experience of the COVID-19 pandemic", which focused on the personal experiences of the authors during the pandemic; and 3) "Understanding the COVID-19 pandemic", which covered the underlying infodemic concerning COVID-19 from a social, cultural, political, and scientific point of view (see Glossary, footnote 1). The list of broad topics was agreed upon after online discussions and a round of voting. The team decided that at the later stage of research, all the memoirs would serve as a resource for analysis. This approach allowed us to combine the subjective experiences of each team member with the more objective analysis by the whole research team.

After six weeks, seven memoirs were ready and became the subject of collective analysis – our aim was to identify common motifs in the texts. The team worked in two pairs and one trio of coders to ensure the objectivity of the process. Each team read all the memoirs and created a provisional list of common motifs. The results of coding were then compared in open forum online discussions: the team consulted the original texts of memoirs with provisional lists of motifs. After agreeing on general motifs that emerged from our memoirs, each sub-team (two pairs and one trio of coders) was assigned to code the memoirs and then to write a section of the paper.

## Ethics of collective autoethnography

While the initial idea of this paper was prompted by JP, the research team adopted a consensus strategy for making further decisions concerning the research project. Reaching the consensus made the process more deliberative; sometimes difficulties arose in resolving problems or dilemmas that occurred during the process, because while the JP and AG – the bioethics educators of the medical students – did not want to impose their perspectives, the students (AP, HE, KD, MD, & RH)

were also cautious about putting their opinions forward. This strategy, along with the adopted methodology of collective autoethnography, resulted in a shift in research focus from the impact of COVID-19 pandemic on bioethics education to the impact on our personal lives of students and educators. Without a strong leader directing the research process, the researchers/participants focused their attention on the problems that interested them the most, treating the initial research question as a pretext for self-exploration.

Before the whole process started, we openly discussed ethical dilemmas that had to be addressed. We did not apply for ethical approval to a research ethics committee at our university. We came to the conclusion that all human participants were also researchers, and that we focused on issues, albeit sensitive ones, that we had already shared in different public fora. Nonetheless, having in mind privacy and confidentiality issues, we discussed how much information should be disclosed in the memoirs and then reported in the paper. We discussed the option of anonymity and decided that it should be an individual choice whether to anonymize our quotes or to not be quoted at all. Ultimately, we invariably chose to share our experience and struggles openly. For some members of our research team, sharing their experience under their own name was the main motivation to participate in the research project. We were cautious not to disclose any information that could be damaging for any third parties who played roles in our personal stories (23,24,28).

We resolved the issue of authorship and management of the research tasks in advance. JP was tasked with dividing work into packages and managing the overall process. The work packages were allocated in a consensus-reaching discussion to pairs (KD & RH, MD & HE) and a trio (AG, AP, JP), and those sub-teams worked on their own. We reached a consensus that everyone made a similar contribution to the manuscript, which is reflected in the alphabetical order of authors, except for JP, who is the last corresponding author. This strategy ensured equal positions for all researchers in the team, and we have also decided to clearly describe the rationale for the authors' order in the paper itself. The final version of the manuscript was commented on and edited by all the authors, who all accepted the final version of the manuscript. Each author contributed equally to the research project and to the production of the final manuscript.

## RESULTS

Our autoethnographic efforts resulted in seven memoirs written in English, varying in length (ranging from 1979 to 3850 words), writing style, and perspective. Some of us tried to keep a chronological order of events (KD, MD, HE, AG, JP), while others divided their texts into three parts that covered the pre-established topic areas (RH, AP). All the memoirs presented personal experiences of studying or teaching bioethics during the COVID-19 pandemic, however, we varied in the way we described our lives: some descriptions were focused chiefly on professional identity, describing private aspects of life merely as a background (AG, JP, AP), while others gave a more comprehensive picture of life, where private experiences were intertwined with studying. Moreover, some of us treated our memoirs as an opportunity to share more general reflections about studying and teaching bioethics (JP), the British response to the pandemic and public life (AP), political and personal responsibility of the world leaders (HE, KD), the social and humanitarian situation in Ecuador (KD), as well as the role of social media and misinformation (KD). Others shared their private ethical doubts and dilemmas associated with the pandemic (MD, RH). We devoted one section solely to the experience of studying or teaching bioethics. Although our initial intention was to study the impact of COVID-19 on studying bioethics, the memoirs put more emphasis on the process of studying and other everyday experiences of disruptions that were associated with the public health measures. It turned out that the bioethics classes played an important role in helping to understanding the pandemic and the process of "meaning-making." Considering the issue of individual experience of the pandemic, despite many differences, there were also common motifs and themes that are best expressed through two metaphors: *falling apart* and *bouncing back*. The metaphor of falling apart captures the manifold changes the outbreak of the pandemic brought into our personal, professional, and social lives, which, for most of us, felt like a breakdown of normal life routines and a challenge to common patterns of understanding the world. The metaphor of bouncing back sums up our efforts to continue our lives in the changed circumstances and our attempts to construct our personal and professional identity anew.

### Studying bioethics

The transition to online learning, including bioethics, was challenging for all the participants. There is a difference in dynamics between online and offline learning. In JP's online tutorial approach, which primarily involved providing students with reading materials, cases, and video instructions through an online platform, the major element that was missing was discussion. As MD mentioned, discussion is "fuel for thinking", while RH claimed that "…discussions are much better when you can look everyone face to face and the threshold for asking questions and sorting out misunderstanding is much lower". JP adopted this strategy for two reasons. First, some of his students had returned to their home countries, and the time differences made it difficult for them to participate in live online classes. Second, due to the lockdown, JP did not have access to an office space where he could hold online meetings. Additionally, AG found it more challenging to encourage discussion in the synchronic Zoom class mode. In a traditional classroom, students are more comfortable speaking up, and educators have more tools at their disposal to engage with students (e.g., grouping students into pairs or teams, setting up debates), whereas in an online format these options are more limited (e.g., moving to break-out rooms typically takes time and slows down the natural flow of thought-exchange), technological issues and Internet disruptions recur, and camera shyness lowers engagement.

Although the pandemic was challenging, we felt that it also opened opportunities to explore and apply bioethical learning. Through a bioethics lens, students were able to examine the dilemmas introduced by COVID-19. This led to critical questioning

of institutions and the public's response, such as the postponement of lockdown imposition in the UK and the general public's compliance with the mask mandate and social distancing. Additionally, students navigated these issues on their own, trying to balance public and individual interests.

A flood of misinformation, especially in social media, was one of the most commonly shared challenges we faced. As a result, many of us were uncertain regarding the crucial aspects of the new virus – its transmission, consequences, and the ethics behind public health measures that not only curtailed the freedom of individuals who seemed not to be exposed to serious health risk, but also deprived them of benefits of social life and education. This confusion resulted in conflicts between different groups of society. AP noted that anti-maskers believed that wearing a mask "infringes on their freedom," a conviction that stemmed from "not believing in the dangers of COVID-19, disregarding scientific evidence and sharing misinformation via social media platforms". Due to their medical and bioethics education, the students stressed the importance of wearing face masks. The ethical reason played an important role in accepting public health policy requirements; HE expressed it clearly with the following words "studying bioethics helped me understand that I was right, and that it is not okay to put your opinions before others' well-being". By learning to weigh his own interests against the welfare of others and accepting the boundaries of his own liberty, he also attested to the potential of bioethics to fosters the growth of moral and civic virtues.

The students felt that it was their duty to adhere to the recommendations and recognized that because it was a public health dilemma, the elimination of virus transmission was dependent on the collective efforts and behaviours of all.

The opposition to face mask use resulted not only from personal opinions but also the lack of guidance from governments. During the bioethics classes, the students learned that, as AP put it, "in order to effectively manage public health, the duties of healthcare leaders is to plan, safeguard and guide". However, most of the students experienced a lack of this kind of political leadership that pursued the public good during this tumultuous period, and eschewed petty power struggles and individual privileges. They realized and experienced the ethical dimension of political decisions. For example, there was a delay in the governments' mandate to wearing face masks: as A noted, "Even with the knowledge that transmission is airborne, face masks only became compulsory in shops… in the United Kingdom – four months after the lockdown." In Norway, as HE put it, the "unwillingness of the government to add stricter mask rules created an unsafe environment outside".

In addition to the lack of guidance, some students' experiences highlighted the lack of government preparation and response to the pandemic, and certain towns experienced devastating outcomes as a result. KD wrote in her memoir:

> The health system budget was cut by 20 percent in the last year. In my hometown, Cuenca, there are only 40 artificial respirators supposed to supply this emergency and the 331,000 people living in it. All of these aspects make Ecuador doomed to fail in protecting their inhabitants.

As practicing medical students, they personally experienced many of the bioethical dilemmas raised by the pandemic. RH felt this during her clerkship:

> When working at the nursing home I had to experience this inner conflict in person. (…) Feeling guilty every time we had to lock the door on people who just did not want to accept the fact that they could not visit their loved ones.

The management of public health differs from individualized care, which is more natural to our inner moral core and nascent professional ethics. However, studying bioethics helped students to come to terms with these conflicting situations, as this quote from RH indicates:

> I do think the fact that I studied bioethics simultaneously gave me an advantage. In a way I think I coped with these "lesser evil" situations.

In addition to the restrictions, the problem of healthcare prioritization was discussed by the team members in their memoirs. Decision-making factors affecting prioritization included "maximizing benefits, treating people equally, promoting and rewarding instrumental value, and giving priority to the worst off" (AP). The students learned that "an intervention is justifiable if the goal is to lessen mortality and morbidity, and the benefits and burdens are fairly balanced" (AP). Therefore, they perceived that the intended result of prioritization was to maximize the number of lives saved. However, as students who had taken the Hippocratic Oath, and sworn to do no harm, they found it difficult to comprehend, with the reality being that if "[in Ecuador] a senior is plugged to a ventilator and [if] a younger person comes, they are given priority and the elder is unplugged" (KD).

## Teaching bioethics

The experiences of teaching bioethics online differed. JP found there to be a change in communication styles online compared with face-to-face interactions:

> Tone of my voice, body language (I can even act a little bit, make gestures). All of this is gone during an online class. [as a result, teaching online felt cold] The course and the whole experience of studying becomes non-personal. I can say almost the same about teaching.

Although at first AG felt “a strange feeling of detachment and disembodiment”, she found a positive outcome in the shift from the offline to the online learning experience. “Don’t we immerse in the discussion deeper in the hermetic headphones-bubble over our heads?” AG said, as “In the virtual class our only bond is the pursuit of knowledge and the exchange of information”. Instead of feeling non-personal, which was JP’s experience, AG felt online learning enabled her to still retain personal relationships with her students:

> I didn’t lose personal contact with my students. It shifted, changed, took new routes – as everything during the pandemic – but remained good, personal and often very rewarding.

AG and JP applied different online teaching techniques. While AG held online seminars mostly using Zoom, JP relied on self-tutoring quizzes and other materials uploaded on the Jagiellonian University platform, or using Microsoft Forms, and only rarely communicated with students using online video communication (MS Teams). These two forms of online teaching also raised different challenges in teaching bioethics to medical students. Live online seminars address the potential issue of low motivation when studying seemingly non-essential subjects. These classes can be emotionally engaging, and an educator can use their personal charisma and teaching style to direct students’ attention towards ethical problems in medicine. However, the second challenge in teaching bioethics is to convey to students that there are certain ethical standards in clinical practice that must be met. Therefore, bioethics taught to medical students is not merely an art of finding new arguments in abstract discussions, such as about the concept of personhood, but rather requires a specific understanding of these procedures and standards. For example, it encompasses knowledge of how to handle situations where a physician interacts with an incompetent patient (29). Self-tutoring quizzes and online materials allow students to learn these standards. In-person teaching can easily combine these two elements, also giving the educator more control over the process.

Despite the challenges of transitioning from in-person to online teaching, the COVID-19 pandemic also created some advantages for teaching bioethics. Case studies that were previously merely historical, theoretical, or seemingly hypothetical, reminiscent of scenarios from catastrophic movies, became actual, current ethical issues. The once abstract questions of “How to fairly distribute scarce resources? Who should make decisions regarding allocation? And what criteria should be used?” became everyone’s concern. The educators believed that real-life situations retained the attention of students; as JP said, they are “much more interesting than abstract principles and reasoning, they involve student’s imagination and provoke them to think, what I would do in this or that situation”.

This existential dimension revealed itself clearly during the pandemic, as JP summed up:

> Bioethics is about norms that regulate our behaviours in regard to very basic human needs, the need of being taken care of the need of being respected, and the need of being part of a community. These needs are especially important when one experiences one’s vulnerability and existential limitations.

## Falling apart

Initially, we intended to focus this paper on teaching and studying bioethics during the first months of the COVID-19 pandemic. However, our diaries were dominated by personal experiences and struggles to adapt to the crisis situation. These experiences, as we now know, appear to be universal and not specific to medical students or bioethics educators. Nonetheless, two things are important in this context. First, the students themselves felt the need to share these experiences. Second, these experiences revealed personal vulnerabilities and highlighted the fact that medical students, and probably also medical professionals, were not immune to crisis and stressful situations. This observation aligns with the latest version of the Declaration of Geneva, which emphasizes the importance of physicians attending to their own health, well-being, and abilities (30). Moreover, as we discuss further below, bioethics education may have an impact on the moral resilience of medical students and professionals.

The pandemic started for us when the Jagiellonian University and the Polish government introduced restrictions and then a full lockdown (March 11-20, 2020) (31). Until then, the COVID-19 pandemic had seemed to be an abstract and faraway event, but the restrictions made it suddenly very real. When the restrictions were imposed, we experienced disbelief and confusion, but finally, we all accepted the reality of the new normal. As AG recalled:

> For me the COVID-19 pandemic began during bioethics class. (…) I noticed some unusual agitation in the room. “The suspended university from today on” – one of students read from his smartphone. “That sounds apocalyptic” – another commented. *Does it*? – I asked myself. For a moment I hesitated, still in a deep disbelief that it can ever affect us here, but the atmosphere was thickening by the second, and soon sucked me in. (…) I went home, confused and de-realized, as in the dream.

The shutdown of the university was not accompanied by a clear roadmap of further restrictions and instruction for students. Therefore, students’ plans and expectations were shaken, as KD noted:

> Thoughts, fears, rushing my mind. What should we expect now… As international students and as young people in a world where information is overwhelming? What does a lockdown mean for me residing in Poland, for my dad and brother living in Austria and for my mom back in Ecuador?

All the students decided to go back to their homes. For international students (AP, KD, HE, RH), this transition meant a journey from Poland to their countries of origin. KD poignantly depicted the atmosphere of this journey:

> The airport is filled with angst, everyone walking defensively, waiting for anyone to screw up. What does "screw up" mean, I am not entirely sure myself, but I believe it has to do with sneezing too loud or forgetting to wear your mask the right way: over your nose and mouth. We are defending ourselves from what exactly? No one knows and yet we are so panicked.

The whole process was stressful to the point of leading to somatic symptoms, as HE confessed:

> I was holding in obscene amounts of stress, and it was bound to overflow. My body ended up releasing all my stress the moment I got into my dad's car at the Norwegian airport and felt safe, which led to me puking in the car. I do not get stressed very easily, and rarely does it affect me physically. However, I ended up being very sick for a week.

Some of us also shared that we were "terrified of [our] physical and mental health on top of being scared for the world and a virus without a cure". For those who recovered from mental health challenges, the pandemic alongside the stress it caused was not only another challenge, but also a reminder of past struggles and a threat that they might come back if additional precautions were not undertaken:

> Thankfully me and my parents do have a good relationship and generally communicate well. So, I told them how it was. I was struggling, I felt like shit, and I was aware of it but wanted them to know. I told them to intervene if the situation escalated. (RH)

All first-year medical students had just moved out from their parents' homes and had begun to spread their wings. They were then, in a way, forced to move back to their homes. Living with parents felt as a breach to their newly begun adulthood, as RH noticed:

> Not only how scared I felt about the pandemic, but also the fact that I would have to move back in with my parents (…) We were living on top of each other, having loud calls at all times of the day and few out of house outings. I felt like I was a child again, with the turmoil of teenage years. And when you're in your mid-20s, that is not exactly a dream scenario.

Studying at "home-university" was very challenging, especially in such a demanding faculty as medicine. Most of the students felt no motivation. It was difficult for them to find balance between free time and studying. One of the main reasons for this was, as they reported, the fact that they were expected to spend both their free time and their study time within the same physical space, often limited to one room. The home environment, as one student reported, was full of various distractions and temptations that made it difficult to focus. HE recalled:

> The biggest factor for me was not having my friends from my class around me. I get a lot of motivation from being around my class and working together to break down the difficult topics we are studying. Being alone makes this very hard. (…) This made some of the more difficult topics harder than they could have been, something that is not appreciated before and during exams.

The transition to learning and teaching entirely online was also difficult at first. The students felt that the first year of medical school abroad was exhausting and they perceived switching to online learning as yet another challenge. Students felt that they had to keep track of everything that was happening online. In addition, they felt stressed because of the uncertainty of being unable to plan more than a week ahead. The online infrastructure was especially challenging during the time of exams, as KD reported:

> The exam page lagging whenever moving on to the next question. Every test happening in a different format and a new platform. While taking the test, we need to turn our microphones; having to concentrate with the noise of 130 people is terrible.

The educators also perceived switching to online teaching as a challenge, at first. AG reported that the pandemic occurred in her first year of work at a new faculty. She noted that:

> The first class (which still took place at university in February) I was so stressed that I barely slept, and my voice almost broke down during the class. But it was good. (…) So, during the first month I was gaining some confidence, but then the pandemic broke out, and everything was new again.

We expressed our fears and worries for our families and close friends. We did not want them to get sick. The severity of COVID-19 for elderly people was the first and foremost concern, especially if the family lived in a distant country. KD decided to visit her grandparents in Ecuador as soon as the major restrictions were lifted, after taking all the precautions to avoid infecting her grandparents (quarantine and testing):

> I haven't seen my grandma in two years now, and the possibility of never doing it again is disheartening. I need to make sure I see her and hug her before anything bad happens to her.

### Bouncing back

We went through a process of adaptation by using a variety of coping strategies. Some of us started to avoid factors that could, in our opinion, affect our personal wellbeing and mental health. For instance, some of us decided to cut off the news and social media. As RH noticed, "When reading the news, the first weeks of lockdown it became so overwhelming that I eventually stopped reading it".

As KD reported, the pandemic gave her a lesson in critical thinking:

> We are dealing with a health crisis ruled in its entirety by information. (…) Information is at our fingertips, 24/7, but how we acquire it can be key in a situation like the one we are facing. Twitter, Facebook, Instagram vs Johns Hopkins University, the World Health Organization, National Institutes of Health. We need to be mindful of the power that we give to misinformation, a small click can make a difference.

Close relations with family and friends, when and where permitted, and replacing sport activities by their temporary substitutes – for instance, gym with home workouts or swing dancing with running – could also be considered coping strategies. Some students reported that the key element that allowed them to cope with stress caused by studying and exams was letting go of personal ambitions and (too) high self-expectations. RH described this experience of letting go in the following way:

> I had my final exams of first year of medical school. I only failed one. Which I was very proud of myself for. Not for failing, but for the fact that it was only one. (…) . I think not being so strict on myself to perform 100% in a troubling time was a smart move.

Resilience was also experienced at the institutional and community levels. Some countries reacted quickly and achieved impressive outcomes, as KD observed:

> Austria applies a contingency plan almost immediately and the compliance is impressive. Everyone but frontline workers have to stay at home. To avoid high rates of unemployment, the ones who can work from home are given paychecks.

The Jagiellonian University also managed to resume its activities, as HE reported: "online classes were getting better and we actually had a semi-consistent schedule". RH agreed, albeit admitting that she had to lower her expectations:

> The university tried to communicate as good as possible with us students. They did well, at least in some cases. Since everything was changed to an online platform in a short time, I was not expecting much really, as long as clear messages were to be given.

## DISCUSSION

### Bioethics education

The starting point of our project was the question concerning the impact of the COVID-19 pandemic on bioethics classes. However, it turns out that our memoirs were strongly focused on the effects of the pandemic on our individual lives. The main reason for this attention shift was probably the strength of these events on our personal lives; the other reasons for this shift are discussed below. The COVID-19 pandemic changed our individual and social lives so immensely that it was almost impossible to neglect this impact in any memoir, even one that was intended to focus mainly on bioethics education. This shift of focus and change of the initial question is not unusual in ethnographic research (23). In our case, it brought interesting and unexpected results: specifically, our research showed how bioethics classes and knowledge helped both students and educators better cope with the pandemic. It also revealed the individual and social ethical dilemmas that we faced in the crisis.

This result corresponds to the discussions on the concept of moral resilience, which arises frequently in bioethics literature (32). Moral resilience is not a new concept (2,3), but the outbreak of the pandemic put it in a new light and spread the concept to wider contexts than for which it ordinarily would have been used. During the pandemic, medical practitioners were confronted with moral dilemmas and moral distress that far exceeded the typical stressors of medical practice. Moral distress differs from moral dilemmas in the following way: in the latter, an agent does not know what is the morally right thing to do, while in the case of moral distress, an agent knows how to act but is frustrated by some internal or external barriers to action, e.g., the lack of resources, public health constraints, intuitional limitations (1). Moral resilience is a capacity to deal with such situations of

moral distress in a way that preserves or restores the integrity of an individual (3). Many authors argue that this capacity includes moral components such as personal and relational integrity or moral efficacy (capacity to stand up for what one believes is correct, even if confronted with resistance) (1,33). Moral resilience is shaped by ethical education, training, and discussion, which is why, for example, the Johns Hopkins Berman Institute of Bioethics organized *The Moral Resilience Rounds*, which allowed distressed physicians and other professionals to meet on Zoom to discuss morally complex situations they met in practice (34). Interestingly, it is argued that moral resilience is strengthened also by psychological components, such as being aware of one's psychological and somatic states (self-regulation) and paying attention to one's well-being while being aware of one's limits (self-stewardship) (1,3,33). Spilg et al.'s study demonstrated that the factors related to stronger moral resilience included sleeping more, being in good mental health, and receiving support from one's employer and colleagues (32).

Our study testifies to the importance of the dimension of moral resilience in medical education, in a bottom-up way. It can be argued that in our case, bioethics classes indeed contributed to shaping the moral resilience of students. Both educators reported having involved students in discussions of real-life pandemic ethical dilemmas. The students' memoirs show that these discussions helped them not only to understand complex challenges of the pandemic but also to make more informed and more resilient moral choices during their summer clerkship. For example, the situation described by RH involves a classic case of moral distress. RH knew what the right thing to do would be (enabling families to visit their loved ones in nursing homes); however, her decision was constrained by public health regulations. At the same time, RH clearly indicated that the bioethics class helped to "*cope with* these lesser evil situations", which, as such, can be interpreted as an indication of greater moral resilience.

A contribution of our study, in this respect, is also its unexpected shift of focus from solely bioethical subjects to those referring to personal situations, and, in particular, to the dimension of coping mechanisms and mental health. The students reported having experienced huge stress, which helped them understand the importance of self-care and tending to one's psychological needs to be able to sustain academic and future professional performance. As argued above, this dimension also contributes to the moral resilience of (future) medical professionals. Considering that the medical profession involves situations of moral distress also in the absence of the pandemic, these results point to the significance of shaping moral resilience as an integral part of ethics education. The need for shaping moral resilience emerged from students' memoirs, where they described the value of bioethics in terms of preparing them to solve complex moral issues in their future practice in an ethically informed and mentally resilient way. Additionally, AG noted that moral resilience-related topics, such as difficult moral conundrums (like allocating ventilators) or the boundaries of medical responsibility (like attending patients without personal protective equipment), were of particular interest to students and sparked engaging discussions during online classes. Our results also indicate that elements of ethical reasoning can also play an important part both in the continuing education of healthcare professionals, as well as routine interventions that are intended to enhance healthcare professionals' and medical students' psychological well-being, such as Balint groups (35). This conclusion corresponds with other voices in bioethical literature, which argue that the COVID-19 pandemic emphasized the importance of preparing students for situations of moral distress and shaping their moral resilience also in the classroom setting (27,36). This provides some evidence to support the position that a resilient posture in the face of adversity is a feasible goal of bioethics education. However, due to a lack of robust empirical research on this topic, it remains unclear to what extent bioethics education actually influences people or how it can help them become virtuous healthcare professionals (37).

Moreover, it seems that moral resilience may be mediated, for some students, through learning about moral theories and developing ethical knowledge and even competencies. Students testified that the moral principles and theories of bioethics helped them to understand the reasoning behind lockdowns, which were implemented with a devastating impact on societies. Initially, students were left shocked and did not have any conceptual framework for the health, social, and political situation in Poland and around the world. The bioethics classes – in particular, those on the topics of public health ethics, the just distribution of health resources, and the role of bioethics in pluralistic democratic societies – provided students with concepts and skills that they could use in their critical approach to the social crises triggered by the COVID-19 pandemic.

For JP, it was striking to see that one memoir contained explanations of public health and public health ethics taken almost directly from the reading material (AP: "intervention is justifiable…"). However, it did not seem to be a lesson learned by rote but a manifestation of how seriously these bioethics readings were taken by the student, who understood and internalized the concepts and principles of public health ethics. These bioethical principles became an important element of the student's professional medical identity. In that sense, bioethics seems to provide a safe theoretical ground where medical challenges, moral dilemmas, and conflicts of values experienced by doctors can be boldly faced and tackled. The students felt that they were also better prepared for their practical clerkships when they had to adopt some restrictive safety measures toward patients and experienced the pandemic dilemmas in person (HE: "studying bioethics helped me understand that I was right").

Therefore, it seems that bioethics classes (teaching, knowledge and competency development) played two important roles during the COVID-19 crisis. On the one hand, it was a cognitive coping mechanism that shaped moral resilience and helped us to deal with a complex, stressful, and challenging situation. On the other hand, bioethics was a part of the medical socialization process (5,22,38). According to Bryon Good, medicine creates its own object by focusing only on the human body. It is understood as a preparation and does not have proper instruments to capture human life experience and ethical values (22). Medicine explains living experience and existential fears in medical terms. Good's observations seem to support this claim; however, our experiences of pandemic revealed another dimension of medical identity, also described and analyzed

in the literature, which is associated with a set of certain ethical and cognitive values: beneficence, justice, and rationality. The aim of bioethics education is to inoculate these principles in students rather than just discussing them theoretically, so that they become integral to their professional identities and thus a foundation for their daily practice.

## Perception of the past, the present, and the future

Our experience of the COVID-19 pandemic changed over time, and there are some discrepancies between our memories and how we felt later when we analyze our memoirs. The perception of the past became blurred by the present experience. This fact became clear during the discussions on the collected material (seven memoirs), and it was a cause of the differences in the final interpretation of the results.

Despite the fact that we discerned common patterns in our experience (*falling apart* and *bouncing back*), some of us (RH) pointed out that the experience went beyond bouncing back to how things (or oneself) had been before. The experience was described with the metaphor of rebirth, a notion that implies undergoing a transformation and emerging from adversity, having gained something new. However, because the metaphor of rebirth did not appear clearly across all the text of memoirs, we decided to choose the more general metaphor of *bouncing back,* which captures the process of gaining psychological and moral resilience vis-à-vis the complex situation of the pandemic. As Lin et al. put it, “Resilience refers to the ability of people to ‘bounce back’ when they encounter difficulties” (39). The backbone of resilience was coping mechanisms, ranging from exercise to a support network, and which were proven effective for other medical students.

We faced difficulties such as personal and family problems and witnessed tragedies and traumas on a societal and global scale. And we discovered in ourselves the resilience to handle pressure and the ability to adapt to and cope with the situation in a flexible manner (40). Several sources indicate that close relations to individuals with a positive COVID-19 diagnosis increased General Anxiety Disorder scores (41-43). In our case, the pandemic turned out to be a lesson of resilience for both students and educators. As discussed above, the students managed to deal with the stress of studying at “home-university” and the educators had to adapt to new ways of teaching. Both groups were learning how to deal with the personal and public challenges of the pandemic and some of the same coping strategies were adopted by other medical students, including exercise and avoiding media sources (44). However, the situation remains challenging and unpredictable, resulting in an unstable *bounce back*. An unstable *bounce back* is the same as a *bounce back*, although it is not definite, and it is an ongoing process of gaining resilience and finding new solutions to the complex challenges of the pandemic. Bioethics education added a moral dimension to the process of gaining resilience.

People who had previously experienced mental health struggles tended to foresee the worst-case scenario. In comparison to other undergraduates, medical students exhibit 8% to 15% higher rate of positively screening for depression. The numbers support the fear of a mental health decline among these students, as they have shown to be more vulnerable (41). A further study noted that 61% of medical students exhibited signs of a depressive disorder, indicating a higher prevalence of mental health hurdles than formerly recorded throughout the COVID-19 pandemic (42,43). KD thought that the world was going to end, and RH thought she might need therapy again. Although none of this came to pass, it indicates that having a mental health problem can exacerbate the negative effect of an already stressful situation. The experience of the pandemic and a breakdown in our everyday life routines made us more mindful of what we were giving our attention to; we realized the harm it was doing to our mental health and thus redirected our attention to something else. It seems that this was a kind of coping mechanism that we collectively adopted to get through the uncertainty of the time.

## Personal growth through adversity

Some of us felt that the experience of mindfulness activated personal growth and heightened self-awareness in this regard. Some of the students shared that having to start all over again after finally making it into medical school was particularly troubling and hard to accept. They had to change their outlook on life and adapt to a new lifestyle of constant change, sacrificing many aspects of their social lives to reach their goals. Considering this, one would believe that this curveball would be just another minor inconvenience in the road to becoming a physician. The challenges faced in the new environment started as a disruption, but with time, they were experienced as containing unexpected benefits. Meeting these setbacks allowed us to develop into more organized and adaptive beings.

Adaptation was the main key to *bouncing back*: as the months of the pandemic passed, the new regulations and policies became increasingly familiar; we learned about our own capacity to adapt. Findings from a research article about US-based medical students’ mental health during the COVID-19 pandemic supports our claim that medical students, regardless of study year, place of residency, or method of teaching, struggled at the beginning of the pandemic (41). These data further corroborated that, later in the course of the pandemic, the students adapted and bounced back (45). Discovering substitutes for pre-pandemic activities was one form of adaptation. Medical students are no strangers to hard work, but they are also very ambitious. Any form of personal development was desired as an opportunity to be one’s best self. Also, the lack of routine at the beginning of the pandemic was disorienting and made the students feel lost in the sense of not having a plan. The students felt that it was in their nature to have a plan of action, but at that moment nothing was certain enough to have one. Fortunately, over time, as they found those substitutes and the online classes began to take on a more solid structure, they also found the routine that they desperately needed. Pinpointing the breakdown in each memory is easy, but it is rather difficult to do the same for the *bounce back* phase. Medical students are very diligent and follow their educational plan down to the last detail, but during the pandemic, that was no longer an option. Suddenly, their goals seemed unreachable and uncertain. This could

have been the start of every medical student's nightmare: the fact that all their hard work could be for nothing. In contrast to the breakdown, the *bounce back* was more of a continuous adaption where everyone tried to conquer the pandemic individually.

### Limitations of the study

This study has its limitations, in large part due of the collective autoethnographic method deployed. The results of our research cannot be generalized and evidently require further, systematic investigation to draw more wide-ranging conclusions. Nor are the authors a representative sample of medical students and educators, either in general or with respect to the Jagiellonian University Medical College. However, the group of students is very diverse in terms of gender, country of origin, and mother tongue, which probably accounted for a wide spectrum of individual experience. As such, this study has the merit of pointing to key issues and adding nuance that merit further study regarding the bioethical education of medical students.

## CONCLUSION

In the paper, we have shown that there were some common patterns in the experiences of the public health, social, and political consequences of the COVID-19 pandemic. As individuals, we experienced shock: we had an impression that our lives – as well as the institutions around us – were falling apart. After this initial phase of falling apart, we managed to bounce back and adjust our ways of studying and teaching in the changed pandemic circumstances. Our analysis suggests that the key factor of adjustment to the altered situation was taking personal responsibility not only for the studying process, but also for self-care and one's psychological and social needs.

Based on our experience, the most urgent recommendation for future emergency situations is to include systematic incorporation of online teaching tools into the academic curriculum and the relevant training of educators in that respect. Our findings also suggest that bioethics classes can and should be an important forum for shaping the moral resilience of future medical professionals. Moral resilience can not only protect practitioners of medicine from moral injury and professional burnout, but also lead to more integrated and better patient care. Moreover, our shift of focus from bioethics to the dimension of coping and maintaining mental health draws attention to the importance of self-regulation, self-stewardship, and care for the mental condition of medical students (especially during the situations of public health emergencies and other emergencies). These findings compels us to suggest expanding students' opportunities for obtaining professional psychological guidance and support within their institution, so that they can become more mindful and ethical health professionals.

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