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ORIGINAL RESEARCH PROJECTS

ORYGINALNE ARTYKUŁY BADAWCZE

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University Support for Coping with Studying during the Fourth Wave of the Pandemic: A Thematic Analysis of Student Perspectives

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Abstract
This qualitative study, conducted in Poland in January 2022, drew upon the experiences of final semester master's degree psychology students. Amidst record-high case numbers, these students were asked to provide written statements discussing the stress they experienced in relation to studying during the pandemic and what the university as an organization should offer to support students in coping. The data was analyzed using thematic analysis to identify and interpret patterns regarding the reported stress and proposed solutions for coping. This study spotlighted health concerns, technostress, communication challenges, and the diminished human contact as key sources of stress in remote learning environments. Findings further indicated that stress management could be significantly improved through the proper organization and prompt communication of changes in teaching and examination modes. Furthermore, a clear definition of course requirements and conditions for credit, combined with avenues for student input, emerged as an essential aspect of the university's approach. The study recommends the development of stress management and well-being courses, organization of additional instructor-student meetings, and promotion of social activities to combat isolation. It also underscored the necessity of accessible psychological support, highlighting the potential benefits of interventions such as mindfulness programs. The implementation of these suggestions aims to foster the development of resilient, adaptive, and successful individuals prepared to face the challenges of an increasingly interconnected and technologically-driven world.

Keywords: pandemic, university students, academic stress, stress management support, online learning.

Introduction

COVID-19 was first identified in late 2019, but quickly began spreading internationally and was declared a global pandemic in March 2020 by the World Health Organization. As cases spread internationally, a number of travel restrictions, closures, and social distancing measures were enacted to help slow infection rates. Educational entities had to respond to often swift actions and policies put in place at various governmental levels, taking actions to protect their populations while continuing to fulfill their educational missions. Multiple researchers have highlighted the changes and challenges that were faced in higher education, especially early on, including campus and housing closures, disruptions to internship and research activities, transitions to remote learning, changes in evaluations and assessments, and even exam cancellations (Lee, 2020; Sahu, 2020; Zhai & Du, 2020).

Methods of teaching and learning, which had largely been dominated by in-person, face-to-face interactions at many traditional higher educational institutions, were initially moved entirely online (Dhawan, 2020). The sudden shift to remote education during the COVID-19 pandemic was unanticipated and chaotic, but critical analysis must examine it in the context of the pandemic's political economy, considering previous circumstances and long-term effects (Williamson et al., 2020). The impact of the solutions implemented on the nature of academic activities and the use of advanced learning methods that specifically impact students' future competencies have been noticed (Zapata-Ros, 2008; Hodges et al., 2020; Popławska et al., 2023).

Online learning can be defined as a form of education that is delivered and facilitated through the internet, where students and instructors engage in educational activities, such as learning content and assessments, through a digital platform. Class instruction can take place asynchronously (self-paced) or synchronously (in real-time). It can provide flexibility and accessibility for learners, allowing them to engage in education from any location and often at any time. Online learning aims to leverage technologies, such as multimedia and interactive resources, to enhance the learning experience (Singh & Thurman, 2019). However, it can also present various difficulties, such as technical problems with downloading, installation, audio/video, and login issues (Favale et al., 2020). Some students find online learning to be unengaging and boring, while others struggle with time management and lack of personal attention. In addition, online content can be theoretical and lack opportunities for hands-on learning, leading to mediocre course content in the student assessment (Kebritchi et al., 2017). Students can face challenges balancing their personal and academic lives in an online learning environment and are often not fully prepared for the e-learning competencies and technology required (Parkes et al., 2015). The unexpected need to move to remote, online teaching at the heart of the pandemic also found many educators lacking readiness and support for effective online teaching and course management (Strutynska & Umryk, 2021; Bruggeman et al., 2022).

As the world and higher education learned more about the virus, related safety measures, how to monitor infection rates, and the availability of vaccines, universities made attempts to re-integrate to the physical campus spaces and classrooms. Often this resulted in a variety of hybrid teaching

and learning models that included having some classes fully online, some fully in-person, and some using a combination of the two extremes. Some students also found themselves balancing a class schedule that included both synchronous and asynchronous courses. These arrangements were also subject to quick changes due to individual illnesses, community inflection rates, and the arrival of new variants. The chaotic nature of the initial changes in instruction combined with the continued need to adapt and lack of digital learning and teaching competencies often contributed to feelings of stress, uncertainty, inability to maintain a routine, and other ambiguities (Bruggeman et al., 2022; Kiltz et al., 2023). The move to virtual learning also triggered the need to use university resources and physical spaces in new ways. Access to essentials like library materials, quiet study spaces, and technological equipment was restricted and posed additional challenges (Sharaievska et al., 2022).

University is a place not only for vocational training, but also for experiencing personal growth through the many relationships and academic and co-curricular activities available (Magolda & Taylor, 2015). Common stressors identified by college students include things like relationships, balancing expectations or pressures of self and others, academic performance, and adjusting to new and often changing environments (Hurst et al., 2013). Others make note of things like making career choices, managing busy academic schedules, and post-graduation plans as sources of stress (Bland et al., 2012; Beiter et al., 2015). For those that identify academic performance stressors, examination periods are often at the height of this. Commonly identified sources of exam stress include physical and personal factors (e.g. inadequate rest, lack of effective time management), insufficient study skills, other academic factors such as having inadequate information about the exam(s), and psychological factors like unrealistic expectations or irrational beliefs (Kumari & Jain, 2014; Păduraru, 2019).

Studies show that high percentages of university students may have at least some difficulties managing their stress (Peer et al., 2015). And given the instability of this developmental period, students may lack resources needed to overcome the demands and stressors placed upon them. Stress in this population is often linked to mental health problems like anxiety, depression, and

suicidal ideation (Schwartz & Petrova, 2019) while also capable of impacting academic performance and physical health.

The COVID-19 pandemic intensified stress and mental health challenges for university students (Li et al., 2021) and interrupted social processes vital to both the healthy development of students and the learning process (Arnett, 2000; 2007; Gross, 2009). Given these additional stressors and disruptions, it is crucial for educational institutions to develop and implement comprehensive, evidence-based strategies tailored to the unique challenges posed by crises like the recent pandemic.

Research Focus

Building on the need to incorporate a comprehensive strategy that combines both preventive and combative measures (Matheny et al., 1986), there remains a pressing need to delve deeper into the exploration of coping mechanisms for students, particularly in the context of the unprecedented challenges and alterations resulting from the COVID-19 pandemic. To this end, there are two main aims to the current research. First, to explore the diverse factors that may impact student stress associated with studying and taking exams amid the pandemic. The second is to examine student expectations regarding institutional support and their role in fostering active and collaborative learning environments. While globally a number of commonalities can be seen in reported pandemic experiences, each region, each organization, and even each individual has seen unique impacts. The qualitative nature of this study was chosen to highlight these individual voices and offer a more complete picture of student coping mechanisms and needs in the face of academic stress. Qualitative methods have been identified as the best methods for exploring social responses and understanding how individuals make meaning and sense of the pandemic experience (Teti et al., 2020; Tremblay et al., 2021).

Methodology

Sample of Research and Procedure

The research was conducted in January 2022, during a strong fourth wave of the pandemic in Poland. Participants included 46 students, 41 females and 5 males, with a median age of 23 years old. All were completing their final semester of MA studies in the field of psychology at a university in Poland. The researchers' network of contacts was utilized to secure participation from students who had several years of experience with the institution, both throughout and prior to the pandemic.

Upon completing courses focused on stress management within organizations, participants were asked to respond openly to the question: "From your perspective as a student, what should the University, as an organization, offer to support students in coping with the stress of preparing for classes and exams, intensified by the challenges of the pandemic (i.e., limited social contact, fear of contagion, and the need to adapt existing habits)?" This question was formulated based on the previously identified research aims and intended to elicit individual perspectives, given the complexities of the pandemic and the highly individualized nature of development in emerging adulthood. All respondents were given information about the use of material for analysis and consented to participation. The data was anonymized and analyzed collectively, following the principles of the Declaration of Helsinki. No compensation was offered to participants for their involvement in the study.

Strategy of Analysis

The collected data was analyzed using thematic analysis to identify and interpret patterns in relation to the research aims (Braun & Clarke, 2006). Coding was done inductively, in a bottom-up direction, using qualitative data analysis software *QDA Miner*. The resulting code labels and initial categories were examined in relation to the research question and compared with other reviews of the responses. Following literature review and peer debriefing, the final analysis themes were created and interpreted to construct their definitions. To illustrate, one participant wrote, "not every instructor adheres

to providing the necessary materials for learning (literature, presentations, etc.)", which was coded as "literature access". After the first coding steps, category creation helped to synthesize the data into groups, which later served as the basis for the final themes. For example, the "literature access" code was included in the "lack of materials" category, which was then in the final phase, summarized under the "sources of stress" theme. A final version of the codebook was created with themes, definitions, and examples. This method of qualitative analysis provides the ability to summarize key features of the collected data, while also capturing the personal perceptions, thoughts, and feelings of the participants.

Results

The themes extracted from students' statements were grouped into four parent categories. Two of these, *Sources of Stress* and *Stress Management Support Suggestions*, emerged as those most noted by student participants and most relevant to the research questions. Two additional categories, *Benefits of Change* and *Other Things to Consider*, while less observed, provide insightful and related context. The information below is organized around the students' ideas from the most dominant to the least.

Sources of Stress

Limitations of Remote Mode. Many students highlighted (37 obs.) characteristics of the remote mode of teaching that are considered limitations and have a negative impact, such as the health of students and instructors due to prolonged computer use, problems related to technology, communication and, above all, the reduction of human contact. As illustrated by one, "In a remote class situation, students do not interact with each other. There are fewer opportunities for conversations that are normally held between classes". Some of the responses focused solely on the technostress.

General Organization Issues. Respondents (16 obs.) cited examples of disorganization in terms of communication, planning, and time management. Many university actions were described as inconsistent with each oth-

er (e.g., lack of unified platforms for remote classes, communication, exams, and delivery of materials). Many noted the stress of having to orient themselves to multiple platforms, "[…] remote teaching suffered from the lack of a centralized system, where it seemed each academic chose a different platform to interact". Another added, "The choice of the platform to conduct, for example, an exam […] is at the discretion of the instructor. This leads to a lot of anxiety among students".

Workload/Time Pressure. Fourteen statements mainly focused on the stressful time of taking exams. This time during the term, as a result of many factors, is a very taxing period. Many noted the "stress of overlapping deadlines for colloquia, final papers, or exams". Stress is also compounded by the approaching deadline for the end of the semester and the need to intensify efforts on top of other pandemic related factors.

Communication Issues. This source of stress, emphasized in 12 responses, is associated with communication problems, disorganization in the methods of communication, and difficult flow of information. Lack of adequate knowledge and current information about changes or activities of the university often led to a sense of uncertainty, unpredictability, and insecurity. As illustrated by one student, "The delivery of information or materials was also chaotic because here, too, multiple platforms were used […] in the early days, the student had to orient himself even among 5 or 6 platforms which eventually led to various shortcomings in communication, disorientation and consequently caused stress". Some also noted the difficulties this created for their own self-organization.

Lack of Competences. Respondents also observed (12 obs.) that the pandemic put students in a situation that required more individual work and attention to self-discipline. "When studying remotely, there can be many distractions in a student's environment", as shared by one student. Lacking the right competencies, many of them noted problems with time management, concentration, and/or effective learning, which sometimes led to, "stress associated with the fear of not completing tasks on time". Students also indicated that the quality of their education was affected by a sense of incompetence in their instructors, including in the use of equipment, communication with students, organization during the semester, or proper conduct of exams.

Lack of Materials. Some students concluded (11 obs.) that the main purpose of studying is to acquire knowledge, so access to resources is one of the basic needs of learners, however, "not every instructor adheres to providing the necessary materials for learning (literature, presentations, etc.)". Lack of access to literature for independent research or other class materials was noted as a huge stressor for students. The respondents also cited a lack of adequate equipment as a stressor for remote classes.

Illness and Absence. Another stress factor (4 obs.) was the increased need to be absent from classes for reasons beyond their control (e.g. illness, quarantine, lack of permission for hybrid classes). As a result, many were unable to take full advantage of classes or access "materials necessary to make up for the forced absence", and experienced significant gaps in the regularity of their studies.

Stress Management Support Suggestions

Proper Organization of the Study Mode. This is one of the most frequent of the emerging themes, with 27 observations. The students highlighted the importance of informative introductions and timely notice of changes in teaching and exam modes as these require adequate preparation by all parties. Mainly for safety, to maintain a sanitary regime, but also for organizational reasons, many students considered remote or hybrid learning as the best solution. But most of all, the university should focus on the unified mode of teaching: not only the choice of a single platform, but also the unification of organizational issues, communication, unified forms of passing, conducting exams – top-down for all instructors at the university. As justified by one respondent, "[…] the multiplicity of platforms creates fear in students that something will not work…especially if they are seeing a particular platform for the first time".

Precise Definition of Requirements/Forms of Credit. An "extremely important factor in reducing potential tension is to set clear requirements and conditions for passing", a sentiment shared by several respondents (27 obs.). It was also suggested that "involving students in the decision-making process regarding the form of credit, the platform used, the form of classes, etc. […]" would be helpful. Ideas for alternative forms of evaluation, instead of the clas-

sic exam, emphasizing the understanding and individual approach to each student's situation, were mentioned. It was also suggested that the university update its process for entering official grades, work to standardize syllabi, and better organize the exam period as these strategies would reduce stress.

Training/Courses. Another often occurring theme, with 24 observations, this pertains to education and training in areas related to stress management and well-being. Specific areas mentioned include developing healthy physical and social activity and student competencies for time management, planning, motivation, and study skills. Respondents stressed the importance of such education, both in the context of the particularly stressful time of the pandemic and the challenging exam period. One suggested that "on the University's website or social media, the University should post information on how to reduce stress associated with carrying out student responsibilities during the pandemic […] psychology students could be involved in creating brochures or information".

Additional Meetings and Activities. Students mentioned many ideas (21 obs.) for organizing additional meetings with instructors to clarify current issues like exams and study groups, but also with other contacts to organize meetings among students for socializing purposes (e.g. conversations, online games). "Each department could organize online meetings […] during the meetings, students would have the opportunity to interact and get support from colleagues", which would not only support a sense of community within the university, but could also minimize feelings of isolation. Some respondents also suggested that instructors "assign some credit work to be completed as a group, which will not only distribute responsibilities […], but will strengthen social ties and expand skills related to group cooperation".

Psychological support. Respondents stressed (19 obs.) the priority of more direct psychological help or support groups for those in need, making free forms of such help available and adequately disseminating information about such opportunities at the university. One noted that the university should take a more active role to "monitor student stress levels during remote classes and sessions (e.g. surveys) in order to control and take appropriate interventions when needed". Ideas of precise initiatives like mindfulness programs and their positive impact on human functioning during times of stress were also mentioned.

Organization of Time. These statements (14 obs.) regarded the organization and proper planning of various activities. Some examples include the distribution of the semester in the year, the proper placement of sessions and exams so that the schedules do not overlap and or burden students or lecturers. To illustrate this point, one respondent noted the importance of "ensuring the exams and midterms are properly timed so that students can prepare and schedule their studies and work accordingly. The absence of a flurry of responsibilities and the feeling of not having enough time to complete them can significantly reduce stress and anxiety". Others made note of the need for better distribution of remote classes to in-person classes, so that both do not occur on the same day.

Organization of Communication. Many student responses (14 obs.) point to the need to improve the flow of communication at all levels. Students asked for advanced notice of changes whenever possible but also noted their understanding of the nature of the pandemic, "of course we understand that the situation is dynamic, but it would certainly be helpful to know the plans of the authorities and what they depend on". Especially in the era of pandemics, due to the already limited flow of information, the university should operate on one consistent communication platform and an integrated mobile app. As suggested by one, "create or use an existing phone app that notifies of important information, so that everyone, despite the lack of internet access, gets notifications".

Technical Support. There were 12 responses concerning technical support. The students suggested an obligatory course on the use of platforms and equipment used during teaching and the establishment of a special technical support group with specific attention to helping during exam times in remote mode. The university could also provide the opportunity to rent the equipment necessary for those who do not have access. Students additionally raised the need for "preventative workshops and training on technostress" and the need of its normalization.

Model of Adaptive Patterns of University's Actions. Respondents highlighted (12 obs.) the need to create a model for adaptation of university operations during pandemic-like crises. According to the statements, preparation for change can help alleviate some of the negative consequences of sudden and unexpected actions. A suggested first strategic step in dealing with the

crisis situation at the university could be to conduct a survey to gather statements from students about their needs and how the university can address them. Another student suggested holding regular meetings of students and lecturers with university authorities to jointly develop strategies for the university's operations during times of change. "By improving the communication between students and the university, it could become more open to the needs of students and employees, and could respond more quickly and efficiently in difficult situations".

Access to Materials. Some students (12 obs.) also emphasized the need of ensuring that they have access to materials or literature necessary for adequate study to pass classes, especially when independent access to libraries is limited (e.g. during a pandemic). Suggestions included making more readings available through free ebooks or other electronic methods. They also stressed that the same access to the materials should be ensured both during the crisis and when it passes.

Additional Topics in the Thematic Analysis of Student Perspectives

In lower numbers than the two primary categories already mentioned, but none-the-less relevant to the current study, participants also highlighted benefits of implementing the stress management support suggestions (*Benefits of Change*) and other aspects that should attract special attention from the university (*Other Things to Consider*).

According to statements related to *Benefits of Change*, the university was identified as an institution possessing the potential to provide a more prominent role in guiding and supporting students. Some pointed out that certain activities, such as additional meetings organized by the university for integration or academic purposes, can result in an increased sense of unity and community among those who teach or learn. Further statements emphasized the potential benefits of the university providing support for both students and instructors, leading not only to an enhanced sense of competence but also to an actual improvement in valuable skills.

Benefits related to health and safety were mentioned by many and became an essential topic in the analysis of respondent statements. A number of participants noted potential safety benefits derived from consistency on the uni-

versity's part in adhering to safety protocols during class meetings and exam time. Others noted that better organization through pre-planned adaptation measures (i.e. planned crisis management) could benefit physical and mental well-being through psychophysical comfort and the reduction of tension during crisis. Lastly, many statements highlighted the potential for the university to better facilitate preventative healthcare activities, such as promoting health-conscious habits or organizing activities that serve the physical well-being of students and instructors, particularly in remote settings.

Other Things to Consider focused on the impact of shifting educational modes in relation to prospective career trajectories, but also on how these types of changes may impact certain populations. Some individuals expressed concerns about their future, including challenges associated with procuring employment and formulating post-graduation career plans. Others accentuated the necessity of addressing the repercussions of this shift on less privileged individuals, with some pointing out the changing motivations one may experience during times of crises. Respondents also underscored the importance of focusing specific attention on junior students and furnishing them with suitable support, given their limited experience and proficiency in the domain of higher education.

Discussion

Stress is commonplace among university students as they not only have to deal with the many challenges of postsecondary education (Peer et al., 2015), they also face the incredibly unstable time of emerging adulthood. This period of emerging adulthood, a more recent addition to the conceptualization of development, highlights the late teens to mid-20s (~18–25) as a distinct period of development in industrialized societies (Arnett, 2000). This developmental time frame is characterized by a series of transitions in areas such as education, interpersonal relationships, and living circumstances (Gross, 2009). Many may be moving away from home, taking on increasing financial responsibility, entering more independent roles, and leaving established routines and support systems. For a majority of traditional university-aged individuals, this time of emerging adulthood is when they strive to find their place in the adult world. Identity issues are prominent and sorting through

these can be a source of stress for many (Arnett, 2000; 2007). Individuals during this time often find themselves in less structured environments, having to develop new skills in time management and organization. Some may find themselves lost with these new freedoms and experience related stress and mental health issues (Arnett, 2007).

The most common source of stress identified by the participants is directly related to the necessity of engaging in online learning. Students report apprehensions about their ability to navigate technology and concerns relating to the interpersonal communication process during remote classes. Considering the research that confirms the adverse effects of technostress on academic productivity (Upadhyaya & Vrinda, 2021), these findings hold significant implications for individuals responsible for student learning outcomes. The results indicate that despite increasing familiarity with new technologies, additional training in their use is essential, serving as a prerequisite for involvement in the learning process and attaining academic success. Consequently, it becomes imperative to identify and monitor the levels of technostress experienced among students (Qi, 2019; Halliburton et al., 2021), especially since many now report seeing the value in continued use of these digital, learning technologies (Popławska et al., 2023).

The repercussions of pandemic-induced restrictions and the ensuing reliance on mediated communication (via phone or the internet) are mirrored in participants' expressed anxiety about interacting with others. The experience of negative emotions while adapting to the role of an online student carries significance in the context of identity formation at this stage of development. Given that self-identity encompassing a sense of stability, coherence, and distinction from one's environment, emerges from the influence of others and through social comparison (Jarymowicz, 1989), participant responses may be interpreted as an indication of difficulties in this domain. Garrison, Anderson, and Archer's (1999) model offers a compelling explanation for the role of conscious and mindful contact in fostering a sense of belonging and mutual learning. According to their theory and subsequent research (Garrison, 2007; Arbaugh et al., 2009), online education necessitates three types of presence: social, cognitive, and teaching. Social presence refers to the extent to which students feel emotionally and socially connected within an online learning environment, while cognitive presence denotes the degree to which

learners can construct and confirm meaning through sustained reflection and discourse. Teaching presence encompasses the design, facilitation, and direction of cognitive and social processes to achieve personally meaningful and educationally valuable learning outcomes. These three elements – cognitive, social, and teaching presence – operate synergistically and interdependently to foster a robust sense of community that bolsters individual learning experiences (Szeto, 2015).

Moreover, participants emphasized the significance of proficiently organizing the learning process, encompassing the planning of its trajectory and the provision of essential resources such as computers, software, and expertise in utilizing specific platforms. This observation implies the existence of certain organizational obstacles and shortcomings within the University on one hand, and expectations regarding the absence of difficulties and their institutional resolution on the other hand. Given the unprecedented nature of the pandemic, it is crucial to reassess and enhance contingency plans for emergencies and disaster situations. To this end, conducting research and surveys to ascertain the needs and expectations of faculty, academic staff, and students, along with periodic rapid evaluations of changes in these domains, is instrumental in addressing the situation effectively. Simultaneously, the opportunity to express one's thoughts and provide comments is one of the factors that evoke students' engagement in joint efforts for the benefit of the academic community, as well as strengthening their own identity as a student (Senior et al., 2018).

Among the suggestions put forth by students, several aim to alleviate the stress associated with identified challenges. This highlights students' engagement in the process and their eagerness to discover effective strategies for overcoming their difficulties. It also demonstrates their willingness to assume a collaborative role in determining solutions implemented throughout the organization (Kahu, 2013). Their suggestions encompass improving institutional policy and practice by creating new procedures for defining requirements and assessing the fulfillment of students, considering the current situations and individual capabilities. These could manifest as equivalent options, available to choose after consultation with the instructors and students.

Students emphasize the importance of supplementary actions that enhance their existing competencies, such as training, workshops, or support

from lecturers or peers, suggesting a strong commitment to broadening their knowledge and skills. These findings reveal that students seek improvements in various aspects of their university experience, including better organization and communication, as well as a more systematic approach to teaching and learning. As these endeavours align more closely with students' needs and expectations, their motivation to learn is likely to increase. Such initiatives are also positively appraised by students, as indicated by 3 out of 46 participants, who perceive support from others as an encouragement to exert effort and a source of motivation to engage in learning (Deci et al., 1991).

Simultaneously, for development and optimal functioning, students require clear, comprehensive, and fast communication regarding the design, organization, and management of the educational process. With provision of appropriate pieces of information, students can better organize learning and leisure time. Their responses suggest that improved functioning of the organization would make it easier for them to overcome their own difficulties in motivation for learning and decision-making regarding further education and career. This, in turn, leads to a reduction in stress and disappointment, ultimately contributing to improved well-being and quality of life (Danna & Griffin, 1991).

A notable limitation of the current study pertains to the specificity of the sample, which primarily comprises final-year social science students, the majority of whom are women. This consideration bears significance in the context of technostress research, as evidence indicates a heightened stress response among women when engaging with novel technologies. Moreover, the study's circumscribed demographic scope may curtail the generalizability of its findings to broader student populations, particularly those in STEM disciplines where technological utilization is more pervasive. Investigating the perspectives of students in their early academic years, those enrolled in courses contingent on technological proficiency (e.g., programming introductions, advanced data analysis), or individuals with special needs could yield invaluable insights into coping mechanisms and potential support measures. Future research endeavors may benefit from broadening the sample to encompass a more diverse array of students, thereby facilitating a more

comprehensive understanding of technostress and its ramifications across distinct academic subgroups.

Conclusion

In conclusion, this study highlights the importance of understanding and addressing the stressors faced by university students during the period of emerging adulthood, particularly in the context of remote learning and the ongoing pandemic. Institutions of higher learning should prioritize providing support and resources to help students navigate the challenges of online education and the accompanying technostress. It is crucial to consider aspects related to students' future careers, as well as the needs of those who may require greater support such as economically disadvantaged students and those at the beginning of their studies. For impoverished students who need more assistance, tailored strategies can help level the playing field and counteract social exclusion. Supporting students at the start of their studies is key, as introducing appropriate stress-management tools at an early stage of education contributes to better academic and personal development. By incorporating student feedback and fostering a collaborative approach to problem-solving, universities can create an environment that not only supports academic success but also promotes the overall well-being of their students. Further research should continue to explore the unique challenges faced by students in this developmental stage and evaluate the effectiveness of strategies designed to mitigate the associated stressors. Universities must also ensure the continual assessment of student needs and expectations, as these can shift quickly, especially in times of increased stress or crisis (NASPA: Student Affairs Administrators in Higher Education, 2022). Ultimately, these efforts can contribute to the development of more resilient, adaptive, and successful individuals as they transition into adulthood and face the challenges of an increasingly interconnected and technologically-driven world.

References

Arbaugh, J.B., Cleveland-Innes, M., Diaz, S., Garrison, D.R., Ice, P., Richardson, J.C., Shea, P., & Swan, K. (2009). Developing a Community of Inquiry Instrument: Testing a Measure of the Community of Inquiry Framework Using a Multi-Institutional Sample. *The Internet and Higher Education*, 11, 133–136.

Arnett, J.J. (2000). Emerging Adulthood: A Theory of Development from the Late Teens Through the Twenties. *American Psychologist*, 55(5), 469–480, doi: 10.1037//0003-066X.55.5.469.

Arnett, J.J. (2007). Emerging Adulthood: What Is It, and What Is It Good For? *Child Development Perspectives*, 1(2), 68–73, doi: 10.1111/j.1750-8606.2007.00016.x.

Beiter, R., Nash, R.A., McCrady, M., Rhoades, D.A., Linscomb, M., Clarahan, M.M., & Sammut, S. (2015). The Prevalence and Correlates of Depression, Anxiety, and Stress in a Sample of College Students. *Journal of Affective Disorders*, 173, 90–96, doi: 10.1016/j.jad.2014.10.054.

Bland, H.W., Melton, B.F., Welle, P.D., & Bigham, L.E. (2012). Stress Tolerance: New Challenges for Millennial College Students. *College Student Journal*, 46(2), 362–375.

Bruggeman, B., Garone, A., Struyven, K., Pynoo, B., & Tondeur, J. (2022). Exploring University Teachers' Online Education During COVID-19: Tensions Between Enthusiasm and Stress. *Computers and Education Open*, 3, doi: 10.1016/j.caeo.2022.100095.

Braun, V., & Clarke, V. (2006). Using Thematic Analysis in Psychology. *Qualitative Research in Psychology*, 3(2), 77–101, doi: 10.1191/1478088706qp063oa.

Danna, K., & Griffin, R.W. (1999). Health and Well-Being in the Workplace: A Review and Synthesis of the Literature. *Journal of Management*, 25(3), 357–384, doi: 10.1177/014920639902500305.

Deci, E.L., Vallerand, R.J., Pelletier, L.G., & Ryan, R.M. (1991). Motivation and Education: The Self-Determination Perspective. *Educational Psychologist*, 26(3–4), 325–346, doi: 10.1207/s15326985ep2603&4_6.

Dhawan, S. (2020). Online Learning: A Panacea in the Time of COVID-19 Crisis. *Journal of Educational Technology Systems*, 49(1), 5–22, doi: 10.1177/0047239520934018.

Favale, T., Soro, F., Trevisan, M., Drago, I., & Mellia, M. (2020). Campus Traffic and E-Learning During COVID-19 Pandemic. *Computer Networks*, 176, doi: 10.1016/j.comnet.2020.107290.

Garrison, D.R., Anderson, T., & Archer, W. (1999). Critical Inquiry in a Text-Based Environment: Computer Conferencing in Higher Education. *The Internet and Higher Education*, 2(2–3), 87–105, doi: 10.1016/s1096-7516(00)00016-6.

Garrison, D.R. (2007). Online Community of Inquiry Review: Social, Cognitive, and Teaching Presence Issues. *Journal of Asynchronous Learning Networks*, 11(1), 61–72, doi: 10.24059/olj.v11i1.1737.

Gross, R.D. (2009). *Psychology: The Science of Mind and Behaviour*. 5th ed. Hodder Arnold.

Halliburton, A.E., Hill, M.B., Dawson, B.L., Hightower, J.M., & Rueden, H. (2021). Increased Stress, Declining Mental Health: Emerging Adults' Experiences in College During COVID-19. *Emerging Adulthood*, 9(5), 433–448, doi: 10.1177/21676968211025348.

Hodges, C., Moore, S., Lockee, B., Trust, T., & Bond, A. (2020). The Difference Between Emergency Remote Teaching and Online Learning. *Educause Review*. Retrieved 17 April 2023 from: https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-and-online-learning.

Hurst, C.S., Baranik, L.E., & Daniel, F. (2013). College Student Stressors: A Review of the Qualitative Research. *Stress and Health*, 29(4), 275–285, doi: 10.1002/smi.2465.

Jarymowicz, M. (1989). Próba konceptualizacji pojęcia "tożsamość": spostrzegana odrębność "ja–inni" jako atrybut własnej tożsamości [An Attempt to Conceptualize the Notion "Identity": The Perceived Distinctiveness of Me-Others as an Attribute of One's Own Identity]. *Przegląd Psychologiczny*, 32(3), 655–669.

Kahu, E.R. (2013). Framing Student Engagement in Higher Education. *Studies in Higher Education*, 38(5), 758–773, doi: 10.1080/03075079.2011.598505.

Kebritchi, M., Lipschuetz, A., & Santiague, L. (2017). Issues and Challenges for Teaching Successful Online Courses in Higher Education: A Literature Review. *Journal of Educational Technology Systems*, 46(1), 4–29.

Kiltz, L., Trippenzee, M., Fleer, J., Fokkens-Bruinsma, M., & Jansen, E. (2023). Student Well-Being in Times of COVID-19 in the Netherlands: Basic Psychological Need Satisfaction and Frustration within the Academic Learning Environment. *European Journal of Psychology of Education*, 39, 319–339, doi: 10.1007/s10212-023-00680-x.

Kumari, A., & Jain, J. (2014). Examination Stress and Anxiety: A Study of College Students. *Global Journal of Multidisciplinary Studies*, 4(1), 31–40.

Lee, J. (2020). Mental Health Effects of School Closures During COVID-19. *The Lancet Child & Adolescent Health*, 4(6), 421, doi: 10.1016/S2352-4642(20)30109-7.

Li, Y., Wang, A., Wu, Y., Han, N., & Huang, H. (2021). Impact of the COVID-19 Pandemic on the Mental Health of College Students: A Systematic Review and Meta-Analysis. *Frontiers in Psychology*, 12, doi: 10.3389/fpsyg.2021.669119.

Magolda, M.B., & Taylor, K.B. (2015). Developing Self-Authorship in College To Navigate Emerging Adulthood. In: J.J. Arnett (Ed.), *The Oxford Handbook of Emerging Adulthood* (pp. 299–315). Oxford University Press.

Matheny, K.B., Aycock, D.W., Pugh, J.L., Curlette, W.L., & Silva Cannella, K.A. (1986). Stress Coping: A Qualitative and Quantitative Synthesis with Implications for Treatment. *The Counselling Psychologist*, 14(4), 499–549.

NASPA: Student Affairs Administrators in Higher Education (2022). *The Compass Report: Charting the Future of Student Affairs*. Retrieved 1 March 2023 from: https://www.naspa.org/about/future-of-student-affairs-report/the-compass-report-charting-the-future-of-student-affairs.

Păduraru, M.E. (2019). Coping Strategies for Exam Stress. *Mental Health: Global Challenges Journal*, 1(1), 64–66, doi: 10.32437/mhgcj.v1i1.26.

Parkes, M., Stein, S., & Reading, C. (2015). Student Preparedness for University E-Learning Environments. *The Internet and Higher Education*, 25, 1–10.

Peer, J.W., Hillman, S.B., & van Hoet, E. (2015). The Effects of Stress on the Lives of Emerging Adult College Students: An Exploratory Analysis. *Adultspan Journal*, 14(2), 90–99, doi: 10.1002/adsp.12007.

Popławska, A., Bocharova, O., & Sufa, B. (2023). Challenges Related to the Postulates of Students Towards Education in Post-Pandemic Times. *International Journal of Research in E-Learning*, 9(1), 1–22, doi: 10.31261/IJREL.2023.9.1.07.

Qi, C. (2019). A Double-Edged Sword? Exploring the Impact of Students' Academic Usage of Mobile Devices on Technostress and Academic Performance. *Behaviour & Information Technology*, 38(12), 1337–1354, doi: 10.1080/0144929X.2019.1585476.

Sahu, P.K. (2020). Closure of Universities Due to Coronavirus Disease 2019 (COVID 19): Impact on Education and Mental Health of Students and Academic Staff. *Cureus*, 12, e7541, doi: 10.7759/cureus.7541.

Schwartz, S.J., & Petrova, M. (2019). Prevention Science in Emerging Adulthood: A Field Coming of Age. *Prevention Science*, 20(3), 305–309, doi: 10.1007/s11121-019-0975-0.

Senior, R.M., Bartholomew, P., Soor, A., Shepperd, D., Bartholomew, N., & Senior, C. (2018). "The Rules of Engagement": Student Engagement and Motivation to Improve the Quality of Undergraduate Learning. *Frontiers in Education*, 3, 32, doi: 10.3389/feduc.2018.00032.

Sharaievska, I., McAnirlin, O., Browning, M.H.E.M., Larson, L.R., Mullenbach, L., Rigolon, A., D'Antonio, A., Cloutier, S., Thomsen, J., Metcalf, E.C., & Reigner, N. (2022). "Messy Transitions": Students' Perspectives on the Impacts of the COVID-19 Pandemic on Higher Education. *Higher Education*, 1–18, doi: 10.1007/s10734-022-00843-7.

Singh, V., & Thurman, A. (2019). How Many Ways Can We Define Online Learning? A Systematic Literature Review of Definitions of Online Learning (1988–2018). *American Journal of Distance Education*, 33(4), 289–306, doi: 10.1080/08923647.2019.1663082.

Strutynska, O., & Umryk, M. (2021). Distance, Online and Blended Learning as Main Educational Trends During Pandemic 2020 Conditions. *International Journal of Research in E-Learning*, 7(1), 1–25, doi: 10.31261/IJREL.2021.7.1.02.

Szeto, E. (2015). Community of Inquiry as an Instructional Approach: What Effects of Teaching, Social and Cognitive Presences are There in Blended Synchronous Learning and Teaching? *Computers & Education*, 81, 191–201, doi: 10.1016/j.compedu.2014.10.015.

Teti, M., Schatz, E., & Liebenberg, L. (2020). Methods in the Time of COVID-19: The Vital Role of Qualitative Inquiries. *International Journal of Qualitative Methods*, 19, doi: 10.1177/1609406920920962.

Tremblay, S., Castiglione, S., Audet, L.A., Desmarais, M., Horace, M., & Peláez, S. (2021). Conducting Qualitative Research To Respond To COVID-19 Challenges: Reflections for the Present and Beyond. *International Journal of Qualitative Methods*, 20, doi: 10.1177/16094069211009679.

Upadhyaya, P., & Vrinda, A. (2021). Impact of Technostress on Academic Productivity of University Students. *Education and Information Technologies*, 26(2), 1647–1664, doi: 10.1007/s10639-020-10319-9.

Williamson, B., Eynon, R., & Potter, J. (2020). Pandemic Politics, Pedagogies and Practices: Digital Technologies and Distance Education During the Coronavirus Emergency. *Learning, Media and Technology*, 45(2), 107–114, doi: 10.1080/17439884.2020.1761641.

Zapata-Ros, M. (2018). The Smart University: The Transition from Learning Management Systems (LMS) To Smart Learning Systems (SLS) in Higher Education. *Revista De Educacion a Distancia*, 57, doi: 10.6018/red/57/10.

Zhai, Y., & Du, X. (2020). Addressing Collegiate Mental Health Amid COVID-19 Pandemic. *Psychiatry Research*, 288, doi: 10.1016/j.psychres.2020.113003.