

Type of Contribution: PAPER

The impact of the COVID-19 pandemic on physical health and mental well-being of university teaching staff: the case of Faculty of Humanities and Social Sciences in Osijek

Milijana Mićunović (Department of Information Sciences, Faculty of Humanities and Social Sciences, University of Osijek, Croatia), Tin Veljača (Faculty of Kinesiology, University of Zagreb, Croatia), Kristina Feldvari (Department of Information Sciences, Faculty of Humanities and Social Sciences, University of Osijek, Croatia)

Keywords: COVID-19 pandemic, Faculty of Humanities and Social Sciences in Osijek, mental well-being, physical health, university teaching staff

Introduction

The COVID-19 pandemic has been disruptive in many ways. Different restrictions, recommendations and health measures, like lockdown, social isolation and physical distancing, impacted our work life, social life, and everyday life and habits, in particular self-care habits and practices in regards to fitness and physical activity, nutrition and mental well-being. Yet, healthy diet, physical activity and mental well-being are crucial overall health determinants.

In regards to work life in (higher) education sector, there were many shifts in the teaching and learning process, one of which was the most prominent – transition to remote teaching and learning which, amongst others, raised an issue of socio-emotional impact on teachers and students (Abdrasheva et al. 2022, Hughes 2020). Some of the most common symptoms of socio-emotional impact of new work conditions were decline in physical activity, increased food intake, rise in stress levels and increased burnout syndrome. In addition, due to the pandemic, the work-life balance has become blurred and adjustment to the new working conditions was time consuming, especially at the beginning of the pandemic, and thus it became more challenging to ensure time and space for physical activity and healthy diet.

There were also many challenges in regards to the social life of the university teaching staff. Social life is distinctly associated with person's physical and mental well-being. Poor social integration, social isolation and disconnectedness impact physical health and mental well-being (Cornwell and Waite 2009, Ge et al. 2017, Hämmig 2019). Thus, social isolation and physical distancing impacted not just the quality of teachers' work, but the quality of their life in general.

Theoretical framework

Two of the most common ways in which the pandemic impacted physical health and fitness was the disruption of fitness club routines (Deloitte 2022) and the decline of physical activity in general, especially high-intensity workout (Martínez-de-Quel et al. 2021). Most of the studies showed the decline in physical activity. In their research Ismail et al. (2020) state that during the pandemic over 38% of the research participants haven't been physically active in any way during the pandemic, 36% of them spent five or more hours in front of the screen for fun, while more than 60% had some kind of sleep disorder. The decline was confirmed by the Eurobarometer data from 2019 that show that 44% of EU citizens practiced some kind of physical activity, while in the year 2022 that number declined to 38%. For comparison, in 2019 in Croatia 27% of Croatian citizens were physically active, but in 2022 that number raised to 30% (European Commission 2022).

The pandemic also caused changes in nutrition and diet, i.e. eating habits. The increase in the intake of high-calorie food, the decrease in the intake of water, fruits, vegetables and low-calorie drinks, emotional and compulsive overeating (Poskute, Nzesi and Geliebter 2021, Coulthard et al. 2021) are some of the common causes of weight gain in 31 – 48% of the population (Di Renzo et al. 2020, Ismail et al. 2020). In 2019 52,7% of EU citizens had excess weight. In the same year in Croatia there were 65% of Croatian citizens with excess weight (an increase in comparison to the year 2014 when there were 57% and the year 2017 when there were 61% of citizens with excess weight) (Eurostat: Statistics explained 2019). Currently, none of the EU countries will meet the goal to stop the rise of obesity till the year 2025, presented in European Programme of Work 2020-2025, as around 50% of adults in the EU have excess weight or are obese (World Health Organization 2022d).

In addition to impacting physical health through physical activity and diet, the pandemic also caused the rise in mental health symptoms and mental disorders, such as stress, anxiety, depression, sleep disorder, burnout syndrome, substance abuse, self-harm and even suicide, especially during times of confinement and lockdown. (Eurostat: Statistics explained. 2022, Kumar and Nayar 2020, Maugeri et al. 2020, Pfefferbaum and North, 2020, World Health Organization 2022c). Besides previously reported stressors among university teaching staff that impact their work life, everyday life and health, like insufficient time, high (self-)expectations, slow career advancement, and poor work-life balance (Kinman 2001, Kinman and Jones 2014, Winefield and Jarett 2001), there were three most common factors of anxiety, stress and burnout in higher education (HE) teachers during the COVID-19 pandemic:

- a) information overload concerning the COVID-19 pandemic,
- b) additional heavy workload due to transition to distance or blended model of teaching, as well as the reshape of work conditions,
- c) social isolation and physical distancing which impacted not only their work, but their personal life and lifestyle (Carr et al. 2022, Daumiller et al. 2021, Fernández-Suárez et al.

2021, Filho et al. 2021, Galea, Merchant and Lurie 2020, van der Ross, Olckers and Schapp 2022).

Information overload during COVID-19 pandemic is especially interesting factor since it was characterized as the second pandemic. For instance, the number of articles on the pandemic was growing exponentially every month which hindered person's ability to discern which information is true and important, and led to heuristic information processing (Hong and Kim 2020, Jagtap et al. 2021, Valika, Maurrasse and Reichter 2020, World Health Organization 2020). Beside that, information overload triggered different unpleasant emotions and adverse psychological effects, i.e. it was proven to be in positive relation to psychological distress and feelings of anxiety (Chen, Lin and Cheng 2022, Fadhilah et al. 2020, Isyawati Permata Ganggi 2020).

Research questions and Methodology

This study is based on the following research questions:

1. What were dietary habits, fitness (exercise) habits and habits for mental well-being of the faculty teaching staff prior to the COVID-19 pandemic, during the COVID-19 pandemic and in the post-COVID.19 period? Which of the newly developed dietary habits, fitness (exercise) habits and habits for mental well-being (e.g. increasing or decreasing exercise, introducing healthy dietary habits or eating junk food, cultivating mental well-being more or neglecting mental well-being) did the faculty teaching staff keep in the post-COVID-19 period?
2. What was the impact of social isolation and physical distancing on the physical and mental well-being of the faculty teaching staff?
3. What was the impact of the information overload concerning the COVID-19 pandemic on the physical and mental well-being of the faculty teaching staff?
4. Did the faculty teaching staff experience the burnout syndrome due to work overload during the COVID-19 pandemic and transition to remote teaching, and was the impact of healthy dietary habits, regular exercise and cultivation of mental well-being on dealing with the burnout syndrome?

For the purpose of this research an online survey will be used. The survey will be created using Lime Survey and it will be pretested. Self-administered questionnaires will be delivered online through e-mail and LMS (Moodle, Loomen, etc.). Questionnaire will include both closed-ended and open-ended questions, and questions will be divided in 6 main themes.

The questionnaire will be designed to be answered by the teaching staff at Faculty of Humanities and Social Sciences, University of Osijek, including all ranks and titles (167 persons in total).

Pre-COVID-19 period includes time till the end of 2019, COVID-19 period includes years 2020 and 2021, and post-COVID-19 period includes period from January till the end of September 2022.

This research is the part of the university scientific-research project on the topic of information and health literacy in the field of physical health and mental well-being, and health and wellness habits of the faculty teachers and students.

Expected Results

The research will identify main factors impacting physical health and mental well-being of the teaching staff at the Faculty of Humanities and Social Sciences in Osijek, as well as their habits and practices in regards to physical activity, nutrition and mental well-being before, during and after the COVID-19 pandemic.

In particular, it is expected that due to new work conditions, social isolation and closure of fitness clubs during the COVID-19 pandemic there was a decline in the physical activity and mental well-being of the teaching staff, as well as the greater risk of poor nutrition, in comparison to the pre-COVID-19 period. It is expected that by the end of the COVID-19 period, due to adjustments to the new work and life conditions, there were certain positive shifts in the physical activity and nutrition, an possible integration of habits and practices that increased mental well-being. In regards to post-COVID-19 period, it is expected that the faculty teaching staff gradually dismissed the bad habits developed during the pandemic, but also kept (and further improved) the good habits concerning physical activity, nutrition and mental well-being. Finally, it is expected that factors of social isolation and information overload had negative impact on physical health and mental well-being of the faculty teaching staff, but also that physical activity, proper nutrition and cultivating mental well-being had positive impact on the burnout syndrome.

The expected results will help develop strategic approach to better supporting physical and mental well-being of the faculty teaching staff, and placing basic prevention and regulation strategies in regards to physical and mental health risks, both at individual and institutional level.

REFERENCES

Abdrasheva, Dana Mauricio Escribens, Emma Sabzalieva, Daniele Vieira do Nascimento, and Clarisa Yerovi. 2022. *Resuming or Reforming?: Tracking the global impact of the COVID-19 pandemic on higher education after two years of disruption*. Paris: UNESCO. Accessed September 20, 2022. <https://unesdoc.unesco.org/ark:/48223/pf0000381749>

Almaghaslah, Dalia, and Abdulrhman Alsayari. 2020. "The Effects of the 2019 Novel Coronavirus Disease (COVID-19) Outbreak on Academic Staff Members: A Case Study of a Pharmacy School in Saudi Arabia." *Risk Management and Healthcare Policy* 13: 795–802. DOI:10.2147/rmhp.s260918

Batty, David. 2020. "Hundreds of university staff to be made redundant due to coronavirus." *The Guardian*. Last modified April 2 2020. <https://www.theguardian.com/education/2020/apr/02/hundreds-of-university-staff-made-redundant-due-to-coronavirus>

Boreham, Paul, Jenny Povey, and Wojtek Tomaszewski. 2015. "Work and social well-being: the impact of employment conditions on quality of life." *The International Journal of Human Resource Management* 27, no. 6, 593–611. <http://dx.doi.org/10.1080/09585192.2015.1027250>

Burki, Talha Khan. 2020. "COVID-19: consequences for higher education." *Lancet Oncology* 21, no. 6: 758. [https://doi.org/10.1016/S1470-2045\(20\)30287-4](https://doi.org/10.1016/S1470-2045(20)30287-4)

Carr, Evan, Katrina Davis, Gabriella Bergin-Cartwright, Grace Lavelle, Daniel Leightley, Carolin Oetzmann, Catherine Polling, Sharon A M Stevelink, Alice Wickersham, Reza Razavi, and Matthew Hotopf. 2022. "Mental health among UK university staff and postgraduate students in the early stages of the COVID-19 pandemic." *Occupational & Environmental Medicine* 79, no. 4: 259–267. DOI: 10.1136/oemed-2021-107667

Centers for Disease Control and Prevention. 2022. "Coping with stress." Last modified September 23, 2022. <https://www.cdc.gov/mentalhealth/stress-coping/cope-with-stress/index.html>

Chen, Xi, Fen Lin, Edmund W. Cheng. 2022. "Stratified Impacts of the Infodemic During the COVID-19 Pandemic: Pandemic: Cross-sectional Survey in 6 Asian Jurisdictions." *Journal of Medical Internet Research* 24, no. 3: 31088. DOI: [10.2196/31088](https://doi.org/10.2196/31088)

Cornwell, Erin York, and Linda J. Waite. 2009. "Social Disconnectedness, Perceived Isolation, and Health among Older Adults." *Journal of Health and Social Behavior* 50, no. 1: 31–48. DOI: [10.1177/002214650905000103](https://doi.org/10.1177/002214650905000103)

Coulthard, Helen, Maxine Sharps, Louise Cunliffe, and Annemieke van den Tol. 2021. "Eating in the lockdown during the covid 19 pandemic; self-reported changes in eating behaviour, and associations with BMI, eating style, coping and Health Anxiety." *Appetite* 161: 105082. <https://doi.org/10.1016/j.appet.2020.105082>

D'Agostino, Armando, Benedetta Demartini, Simone Cavallotti, and Orsola Gambini. 2020. "Mental health services in Italy during the COVID-19 outbreak." *Lancet Psychiatry* 7, no. 5: 385–387. [https://doi.org/10.1016/S2215-0366\(20\)30133-4](https://doi.org/10.1016/S2215-0366(20)30133-4)

Daly, Michael, and Eric Robinson. 2022. "Depression and anxiety during COVID-19." *Lancet Correspondence* 399, no. 10324: 18. [https://doi.org/10.1016/S0140-6736\(22\)00187-8](https://doi.org/10.1016/S0140-6736(22)00187-8)

Dattani, Saloni, Hannah Ritchie, and Max Roser. 2021. "Mental health." *OurWorldInData.org*. Accessed September 20, 2022. <https://ourworldindata.org/mental-health>

Daumiller, Martin, Raven Rinas, Julia Hein, Stefan Janke, Oliver Dickhäuser, and Markus Dresel. 2021. "Shifting from face-to-face to online teaching during COVID-19: The role of university faculty achievement goals for attitudes towards this sudden change, and their relevance for burnout/engagement and student evaluations of teaching quality." *Computers in Human Behavior* 118: 106677. <https://doi.org/10.1016/j.chb.2020.106677>

Deloitte. 2022. *European Health & Fitness Market: Report 2022*. Brussels: EuropeActive.

Di Renzo, Laura, et al. 2020. "Eating habits and lifestyle changes during COVID-19 lockdown: An Italian survey." *Journal of Translational Medicine* 18: 229. <https://doi.org/10.1186/s12967-020-02399-5>

Dinu, Larisa M., Eleanor J. Dommett, Ardic Baykoca, Kosha J. Mehta, Sally Everett, Juliet L. H. Foster, and Nicola C. Byrom. 2021. "A Case Study Investigating Mental Wellbeing of University

Academics during the COVID-19 Pandemic.” *Education Sciences* 11: 702.

<https://doi.org/10.3390/educsci11110702>

European Commission. 2022. “New Eurobarometer on sport and physical activity shows that 55% of Europeans exercise*.” Last modified September 19, 2022.

https://ec.europa.eu/commission/presscorner/detail/en/ip_22_5573

Eurostat: Statistics explained. 2019. “Overweight and obesity BMI statistics.” Accessed September 20, 2022.

https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Overweight_and_obesity_BMI_statistics

Eurostat: Statistics explained. 2021. Possibility of recognising COVID-19 as being of occupational origin at national level in EU and EFTA countries. Luxembourg: European Commission.

Eurostat. 2022. Sustainable development in the European Union — Monitoring report on progress towards the SDGs in an EU context — 2022 edition. Luxembourg: European Commission. Accessed September 20, 2022. <https://ec.europa.eu/eurostat/en/web/products-statistical-books/-/ks-09-22-019>

Fadhilah, N M, S Fauziah, D Riana, A Eko, A Yulianto, and B M Sulthon. 2020. “Influence Of Overload Information About COVID-19 Pandemic On Internet For Psychological Illnesses And Behavioral Intentions To Continue Searching For Information.” *Journal of Physics: Conference Series* 1641: 012018. DOI: 10.1088/1742-6596/1641/1/012018

Fernández-Suárez, Iván, Maríaluz Arántzazu García-González, **Fermín Torrano**, and Guillermo García-González. 2021. “Study of the Prevalence of Burnout in University Professors in the Period 2005–2020.” *Education Research International* 2021: 7810659.

<https://doi.org/10.1155/2021/7810659>

Filho, Walter Leal, Tony Wall, Lez Rayman-Bacchus, Mark Mifsud, Diana J. Pritchard, Violeta Orlovic Lovren, Carla Farinha, Danijela S. Petrovic, and Abdul-Lateef Balogun. 2021. “Impacts of COVID-19 and social isolation on academic staff and students at universities: a cross-sectional study.” *BMC Public Health* 21: 1213. <https://doi.org/10.1186/s12889-021-11040-z>

Fowler, Sean. 2015. “Burnout and depression in academia: A look at the discourse of the university.” *Empedocles: European Journal for the Philosophy of Communication* 6, no. 2: 155–167. https://doi.org/10.1386/ejpc.6.2.155_1

Galea, Sandro, Raina M. Merchant, and Nicole Lurie. 2020. “The Mental Health Consequences of COVID-19 and Physical Distancing.” *JAMA Internal Medicine* 180, no. 6: 817–818. DOI: 10.1001/jamainternmed.2020.1562

Ge, Lixia, Chun Wei Yap, Reuben Ong, and Bee Hoon Heng. 2017. “Social isolation, loneliness and their relationships with depressive symptoms: A population-based study.” *PLoS ONE* 12, no. 8: e0182145. <https://doi.org/10.1371/journal.pone.0182145>

Hämmig, Oliver. 2019. “Health risks associated with social isolation in general and in young, middle and old age.” *PLoS ONE* 14, no. 7: e0219663.

<https://doi.org/10.1371/journal.pone.0219663>

Hong, Hyehyun, and Hyo Jung Kim. 2020. “Antecedents and Consequences of Information Overload in the COVID-19 Pandemic.” *International Journal of Environmental Research and Public Health* 17, no. 24: 9305. DOI: [10.3390/ijerph17249305](https://doi.org/10.3390/ijerph17249305)

Hughes, Conrad. 2020. Some implications of COVID-19 for remote learning and the future of schooling. Paris: UNESCO International Bureau of Education. Accessed September 20, 2022. <https://unesdoc.unesco.org/ark:/48223/pf0000373229>

Idris, Fazean, Ihsan Nazurah Zulkipli, Khadizah Haji Abdul-Mumin, Siti Rohaiza Ahmad, Shahid Mitha, Hanif Abdul Rahman, Rajan Rajabalaya, Sheba Rani David and Lin Naing. 2021. "Academic experiences, physical and mental health impact of COVID-19 pandemic on students and lecturers in health care education." *BMC Medical Education* 21: 542. <https://doi.org/10.1186/s12909-021-02968-2>

Ismail, Leila Cheick, et al. 2020. "Eating habits and lifestyle during COVID-19 lockdown in the United Arab Emirates: A cross-sectional study." *Nutrients* 12, 11: 3314. <https://doi.org/10.3390/nu12113314>

Isyawati Permata Ganggi. Roro 2020. "Information Anxieties and Information Distrust: The effects of Overload Information about COVID – 19." *E3S Web of Conferences* 202: 15014. <https://doi.org/10.1051/e3sconf/202020215014>

Jagtap, Shreya, Amanda L. Shamblaw, Rachel Rumas, Michael W. Best. 2021. "Information seeking and health anxiety during the COVID-19 pandemic: The mediating role of catastrophic cognitions." *Clinical Psychology & Psychotherapy* 28, no. 6: 1379-1390. <https://doi.org/10.1002/cpp.2684>

Kang, Byeongwoo. 2021. "How the COVID-19 Pandemic Is Reshaping the Education Service." In *The Future of Service Post-COVID-19 Pandemic, Volume 1: Rapid Adoption of Digital Service*, edited by Jungwoo Lee and Spring H. Han, 15–36. TechnologySingapore: Springer. <https://doi.org/10.1007/978-981-33-4126-5>

Kinman, Gail. 2001. "Pressure Points: A review of research on stressors and strains in UK academics." *Educational Psychology* 21, no. 4: 473–492. <https://doi.org/10.1080/01443410120090849>

Kinman, Gail, and Fiona Jones. 2008. "A Life Beyond Work? Job Demands, Work-Life Balance, and Wellbeing in UK Academics." *Journal of Human Behavior in the Social Environment* 17, no. 1-2: 41–60. <http://dx.doi.org/10.1080/10911350802165478>

Kita, Yosuke, Shoko Yasuda, and Claudia Gherghel. 2022. "Online education and the mental health of faculty during the COVID-19 pandemic in Japan." *Scientific Reports* 12: 8990. <https://doi.org/10.1038/s41598-022-12841-x>

Kumar, Anant, and K. Rajasekharan Nayar. 2020. "Covid 19 and its mental health consequences." *Journal of Mental Health* 30, no. 1: 1–2. <https://doi.org/10.1080/09638237.2020.1757052>

Liu, Shuai, Lulu Yang, Chenxi Zhang, Yu-Tao Xiang, Zhongchun Liu, Shaohua Hu, and Bin Zhang. 2020. "Online mental health services in China during the COVID-19 outbreak." *Lancet Psychiatry* 7, no. 4: 17-18. [https://doi.org/10.1016/S2215-0366\(20\)30077-8](https://doi.org/10.1016/S2215-0366(20)30077-8)

Martínez-de-Quel, Óscar, David Suárez-Iglesias, Marcos López-Flores, and Carlos AyánPérez. 2021. "Physical activity, dietary habits and sleep quality before and during COVID-19 lockdown: A longitudinal study." *Appetite* 158: 105019. <https://doi.org/10.1016/j.appet.2020.105019>

Maugeri, Grazia, Paola Castrogiovanni, Giuseppe Battaglia, Antonio Palma, Michelino Di Rosa, Giuseppe Musumec. 2020. "The impact of physical activity on psychological health during Covid-19 pandemic in Italy." *Heliyon* 6, no. 6: 04315. <https://doi.org/10.1016/j.heliyon.2020.e04315>

Mula-Falcón, Javier, Cristina Cruz González, and Carmen Lucena Rodríguez. 2022. *Burnout Syndrome in University Teachers: A Review of the Literature*. Champaign, IL: Common Ground Research Networks.

Odrizola-González, Paula, Álvaro Planchuelo-Gómez, María Jesús Irurtia, and Rodrigo de Luis-García. 2020. "Psychological effects of the COVID-19 outbreak and lockdown among students and workers of a Spanish university." *Psychiatry Research* 290: 113108. <https://doi.org/10.1016/j.psychres.2020.113108>

Panchal, Nirmita, rabah Kamal, Cynthia Cox, and Rachel Garfield. 2021. "The Implications of COVID-19 for Mental Health and Substance Use." KFF. Last modified February 10, 2021. <https://www.kff.org/coronavirus-covid-19/issue-brief/the-implications-of-covid-19-for-mental-health-and-substance-use/>

Pfefferbaum, Betty, and Carol S. North. 2020. "Mental Health and the Covid-19 Pandemic." *The New England Journal of Medicine* 383: 510–512. DOI: 10.1056/NEJMp2008017

Piya, Fahmida Liza, Sumaiya Amin, Anik Das, and Muhammad Ashad Kabir. 2022. "Impacts of COVID-19 on the Education, Life and Mental Health of Students in Bangladesh." *International Journal of Environmental Research and Public Health* 19, no. 2: 785. <https://doi.org/10.3390/ijerph19020785>

Poskute, Atene S., Aniema Nzesi, and Allan Geliebter. 2021. "Changes in food intake during the COVID-19 pandemic in New York City." *Appetite* 163: 105191. <https://doi.org/10.1016/j.appet.2021.105191>

Rajkumar, Ravi Philip. 2020. "COVID-19 and mental health: A review of the existing literature." *Asian Journal of Psychiatry* 52: 102066. <https://doi.org/10.1016/j.ajp.2020.102066>

Reimers, Fernando M. 2021. *Education and Covid-19: Recovering from the shock created by the pandemic and building back better: Educational Practices Series 34*. Paris: UNESCO. Accessed September 20, 2022. <http://www.ibe.unesco.org/en/news/education-and-covid-19-recovering-shock-created-pandemic-and-building-back-better-educational>

Sahu, Pradeep. 2020. "Closure of Universities Due to Coronavirus Disease 2019 (COVID-19): Impact on Education and Mental Health of Students and Academic Staff." *Cureus* 12, no. 4: e7541. doi:10.7759/cureus.7541

Sipeki, Irén, Tímea Vissi, and Ibolya Túri. 2022. "The effect of the Covid-19 pandemic on the mental health of students and teaching staff." *Heliyon* 8: e09185. <https://doi.org/10.1016/j.heliyon.2022.e09185>

Valika, Taher S., Sarah E. Maurrasse, and Lara Reichert. 2020. "A Second Pandemic? Perspective on Information Overload in the COVID-19 Era." *Otolaryngology–Head and Neck Surgery* 163, no. 5: 931–933. <https://doi.org/10.1177/019459982093585>

van der Ross Melissa Reynell, Chantal Olckers, and Pieter Schaap. 2022. "Engagement of Academic Staff Amidst COVID-19: The Role of Perceived Organisational Support, Burnout Risk, and Lack of Reciprocity as Psychological Conditions." *Frontiers in Psychology* 13: 874599. <https://doi.org/10.3389/fpsyg.2022.874599>

Vindegaard, Nina, and Michael Eriksen Benros. 2020. "COVID-19 pandemic and mental health consequences: systematic review of the current evidence." *Brain, Behavior, and Immunity* 89: 531-542. <https://doi.org/10.1016/j.bbi.2020.05.048>

Watts, J., and Noelle Robertson. 2011. "Burnout in university teaching staff: a systematic literature review." *Educational Research* 53, no. 1: 33–50. <http://dx.doi.org/10.1080/00131881.2011.552235>

Wigginton, Nicholas S., R M Cunningham, R H Katz, ME Lidstrom, KA Moler, D Wirtz, MT Zuber, MT. 2020. "Moving academic research forward during COVID-19." *Science* 368: 1190-1192. <https://doi.org/10.1126/science.abc5599>

Winefield, Anthony. H., and Richard Jarrett. 2001. "Occupational stress in University Staff." *International Journal of Stress Management* 8, no. 4: 285–298. <https://doi.org/10.1023/A:1017513615819>

World health statistics. 2022. *World Health Statistics 2022: Monitoring health for the SDGs, sustainable development goals*. Geneva: World Health Organization.

World Health Organization. 2022. "COVID-19 pandemic triggers 25% increase in prevalence of anxiety and depression worldwide." Last modified March 2, 2022. <https://www.who.int/news/item/02-03-2022-covid-19-pandemic-triggers-25-increase-in-prevalence-of-anxiety-and-depression-worldwide>

World Health Organization. 2022. *Mental Health and COVID-19: Early evidence of the pandemic's impact: Scientific brief*. Geneva: World Health Organization. Accessed September 20, 2022. https://www.who.int/publications/i/item/WHO-2019-nCoV-Sci_Brief-Mental_health-2022.1

World Health Organization. 2020. *Mental Health and psychological considerations during the COVID-19 outbreak*. Geneva: World Health Organization. Accessed September 20, 2022. <https://apps.who.int/iris/handle/10665/331490>

World Health Organization. 2022. *WHO European Regional Obesity Report 2022*. Copenhagen: World Health Organization Regional Office for Europe. Accessed September 20, 2022. <https://www.who.int/europe/publications/i/item/9789289057738>

World Health Organization. 2022. *WHO guidelines on mental health at work*. Geneva: World Health Organization. Accessed September 20, 2022. <https://www.who.int/news-room/fact-sheets/detail/mental-health-at-work>

World Health Organization, International Labour Organization. 2022. *Mental health at work: policy brief*. Geneva: World Health Organization. Accessed September 20, 2022. <https://www.who.int/publications/i/item/9789240057944>