



THE ATHENS INSTITUTE FOR EDUCATION AND RESEARCH

Abstract Book

**8th Annual International Conference on
Biology
20-23 June 2022, Athens, Greece**

**Edited by
Paul Contoyannis & Olga Gkounta**

2022

8th Annual International
Conference on Biology
20-23 June 2022, Athens, Greece

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Olga Gkounta

First published in Athens, Greece by the Athens Institute for Education and
Research.

ISBN: 978-960-598-494-6

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Preface

This book includes the abstracts of all the papers presented at the 8th Annual International Conference on Biology (20-23 June 2022), organized by the Athens Institute for Education and Research (ATINER).

A full conference program can be found before the relevant abstracts. In accordance with ATINER's Publication Policy, the papers presented during this conference will be considered for inclusion in one of ATINER's many publications only after a blind peer review process.

The purpose of this abstract book is to provide members of ATINER and other academics around the world with a resource through which they can discover colleagues and additional research relevant to their own work. This purpose is in congruence with the overall mission of the association. ATINER was established in 1995 as an independent academic organization with the mission to become a forum where academics and researchers from all over the world can meet to exchange ideas on their research and consider the future developments of their fields of study.

To facilitate the communication, a new references section includes all the abstract books published as part of this conference (Table 1). I invite the readers to access these abstract books –these are available for free– and compare how the themes of the conference have evolved over the years. According to ATINER's mission, the presenters in these conferences are coming from many different countries, presenting various topics.

Table 1. *Publication of Books of Abstracts of Proceedings, 2015-2022*

Year	Papers	Countries	References
2022	30	19	Contoyannis P and Gkounta O (2022)
2021	15	11	Papanikos (2021)
2020	9	8	Papanikos (2020)
2019	29	20	Papanikos (2019)
2018	31	18	Papanikos (2018)
2017	17	13	Papanikos (2017)
2016	26	15	Papanikos (2016)
2015	32	15	Papanikos (2015)

It is our hope that through ATINER's conferences and publications, Athens will become a place where academics and researchers from all over the world can regularly meet to discuss the developments of their disciplines and present their work. Since 1995, ATINER has organized

more than 400 international conferences and has published over 200 books. Academically, the institute is organized into 6 divisions and 37 units. Each unit organizes at least one annual conference and undertakes various small and large research projects.

For each of these events, the involvement of multiple parties is crucial. I would like to thank all the participants, the members of the organizing and academic committees, and most importantly the administration staff of ATINER for putting this conference and its subsequent publications together. Specific individuals are listed after the Editors' Note.

Gregory T. Papanikos
President

Editors' Note

These abstracts provide a vital means to the dissemination of scholarly inquiry in the field of Biology. The breadth and depth of research approaches and topics represented in this book underscores the diversity of the conference.

ATINER's mission is to bring together academics from all corners of the world in order to engage with each other, brainstorm, exchange ideas, be inspired by one another, and once they are back in their institutions and countries to implement what they have acquired. The 8th Annual International Conference on Biology accomplished this goal by bringing together academics and scholars from 19 different countries (Albania, Austria, Belgium, Finland, France, Germany, Iran, Israel, Italy, Latvia, Malta, Poland, South Africa, Spain, Sweden, The Netherlands, Turkey, UK, and USA), which brought in the conference the perspectives of many different country approaches and realities in the field.

Publishing this book can help that spirit of engaged scholarship continue into the future. With our joint efforts, the next editions of this conference will be even better. We hope that this abstract book as a whole will be both of interest and of value to the reading audience.

Paul Contoyannis & Olga Gkounta
Editors

**8th Annual International Conference on Biology, 20-23 June
2022, Athens, Greece**

Organizing & Scientific Committee

All ATINER's conferences are organized by the Academic Council. This conference has been organized with the assistance of the following academic members of ATINER, who contributed by reviewing the submitted abstracts and papers.

1. Gregory T. Papanikos, President, ATINER & Honorary Professor, University of Stirling, U.K.
2. Paul Contoyannis, Head, Health Economics & Management Unit, ATINER & Associate Professor, McMaster University, Canada.
3. Christopher Janetopoulos, Head, Biology Unit, ATINER & Associate Professor of Biological Sciences, University of the Sciences, USA.

FINAL CONFERENCE PROGRAM

8th Annual International Conference on Biology, 20-23 June 2022, Athens, Greece

PROGRAM

Monday 20 June 2022

09.00-09.30
Registration

09:30-10:00
Opening and Welcoming Remarks:
o Gregory T. Papanikos, President, ATINER

10:00-11:30 TIME SLOT 1 - MORNING PRESENTATIONS

Time Slot 1b
<p>Coordinator: Ms. Olga Gkounta, Researcher, ATINER.</p> <ol style="list-style-type: none">Carmelo Bernabeu, Researcher, Margarita Salas Center for Biological Research, Spanish National Research Council (CSIC), Spain. Elisa Rossi, Associate Professor, University of Paris, France. <i>Title: Role of Human Endothelial Endoglin in Cell Adhesion: Current Status and Perspectives.</i>Nileena Velappan, Researcher, Los Alamos National Laboratory, USA. <i>Title: Developing Antibodies to Viral Envelope Proteins: Influenza A and SARS CoV2.</i>Aadil Sheikh, Professor, National Health Service, UK. <i>Title: The Utility of Smartphone-Based Artificial Intelligence Approaches for Diabetic Retinopathy: A Literature Review and Meta-Analysis.</i>Martha Chadyiwa, Lecturer, University of Johannesburg, South Africa. <i>Title: Adherence to Standard Occupational Health and Safety Guidelines in Medical Laboratories in Harare, Zimbabwe.</i>

11:30-13:00 TIME SLOT 2 - NOON PRESENTATIONS

Time Slot 2a	Time Slot 2b
<p>Coordinator: Dr. Paul Contoyannis, Head, <u>Health Economics & Management Unit</u>, ATINER & Associate Professor, McMaster University, Canada.</p> <ol style="list-style-type: none">Dimitrios Kourouklis, Senior Economist, Office of Health Economics, UK and Researcher, Mines ParisTech, France, Edward Oliver, Economist, Office of Health Economics, UK. <i>Title: Do R&D Tax Credits Impact Pharmaceutical Innovation? Evidence from a Synthetic Control Approach.</i>Lotte Daniels, PhD Student, Hasselt University, Belgium. <i>Title: Virtual Reality Evidence on the Impact of Physicians' Open Versus Defensive Communication on Patients.</i>Johannes Khinast, Director, Institute of	<p>Coordinator: Ms. Olga Gkounta, Researcher, ATINER.</p> <ol style="list-style-type: none">Diana Araja, Researcher, Riga Stradins University, Institute of Microbiology and Virology, Latvia. <i>Title: Post-COVID-19 Consequences to Public Health.</i>Svenja Adamek, Section 2.1 'Fundamental questions, policy consultation and reporting on the world of work', The Institute for Work Design of North Rhine-Westphalia (LIA.nrw), Germany. <i>Title: Advancing towards the New Normal: Implications for Healthy and Productive Telework from a Representative Employee Survey.</i>

Process and Particle Engineering, Austria.

Title: High Speed Technology for the Manufacturing of Next Generation Drugs.

13:00-14:30

Lunch

14:30-16:00 TIME SLOT 3 - AFTERNOON PRESENTATIONS

Coordinator: Mr. Kostas Spyropoulos

1. **Zahra Khazaeipour**, Associate Professor, Tehran University of Medical Sciences, Iran.
Title: Indirect Effects of COVID-19 in Referring Patients to Hospitals in Iran.
2. **Hannele Laaksonen**, Principal Lecturer, Tampere University of Applied Sciences, Finland.
Title: Finnish Remote Leadership in Home Care during the Pandemic.
3. **Nawal Ouhmad**, PhD Student, University of Tours, France.
Title: Impact of Post-Traumatic Stress Disorder (PTSD) on Executive Functioning.
4. **Mia Athina Thomaidou**, PhD Candidate, Leiden University, The Netherlands.
Title: Mental Illness as a Sentencing Determinant: Comparative Analysis of New York and Kansas Case-Law Based on a Novel Machine Learning Methodology.

16:00-17:30 TIME SLOT 4 - AFTERNOON PRESENTATIONS

Coordinator: Mr. Kostas Spyropoulos

1. **Ken Roberts**, Emeritus Professor, University of Liverpool, UK.
Title: Back to Normal? Time Use, Work and Leisure in the UK Before, During, Between and Following the COVID-19 Lockdowns.
2. **Michael Galea**, Senior Lecturer, University of Malta, Malta.
Title: COVID-19, our Elderly and their Careers: The Way Forward.
3. **Golnough Kazeminezhad**, PhD Student, Indiana University-Purdue University Indianapolis, USA.
Title: Impact of Legalizing Recreational Marijuana on Physical Violence Among Adolescents.

20:30-22:30

Greek Night

Tuesday 21 June 2022

08:30-11:30 TIME SLOT 5 - MORNING PRESENTATIONS

Old and New-An Educational Urban Walk

The urban walk ticket is not included as part of your registration fee. It includes transportation costs and the cost to enter the Parthenon and the other monuments on the Acropolis Hill. The urban walk tour includes the broader area of Athens. Among other sites, it includes: Zappion, Syntagma Square, Temple of Olympian Zeus, Ancient Roman Agora and on Acropolis Hill: the Propylaea, the Temple of Athena Nike, the Erechtheion, and the Parthenon. The program of the tour may be adjusted, if there is a need beyond our control. This is a private event organized by ATINER exclusively for the conference participants.

11:30-13:00 TIME SLOT 6 - NOON PRESENTATIONS

Time Slot 6a	Time Slot 6b
<p>Coordinator: Mr. Kostas Spyropoulos</p> <ol style="list-style-type: none"> Victor Almeida, Student, University of Bologna, Italy. Paolo Ricci, Professor, University of Bologna, Italy. <i>Title: Climate Change and Human Migration: Managing the Cascade Effects Initiated by Natural Disasters.</i> Birgitta Evengård, Professor, Umeå University, Sweden. <i>Title: Climate Change and Transition of Infectious Diseases in the North.</i> Sayin San, Assistant Professor, Sakarya University, Turkey. <i>Title: Another Aspect of Gender Discrimination: Obesity in Turkish Women.</i> Constantinos Alexiou, Professor, Cranfield University, UK. <i>Title: Income Inequality, Health Outcomes and Financial Crisis.</i> 	<p>Coordinator: Ms. Olga Gkounta, Researcher, ATINER.</p> <ol style="list-style-type: none"> Sam Coley, Senior Lecturer, Birmingham City University, UK. <i>Title: UK Radio's Response to COVID-19: A Reappraisal of Radio as a 'Crisis' Medium through the Exploration of a Production Case Study.</i> Zoe Boutsoli, Vice President of Publications, Athens Institute for Education and Research (ATINER). Victoria Bigelow, Fulbright Scholar, Athens Institute for Education and Research (ATINER). Olga Gkounta, Researcher, Athens Institute for Education and Research (ATINER). <i>Title: Essays on COVID-19 Research.</i> Zaeem Moti, Medical Student, Imperial College London, UK. <i>Title: Antibiotic Therapy versus Appendectomy: An Economic Evaluation on Treatment for Acute Uncomplicated Appendicitis.</i>

13:00-14:30 TIME SLOT 7 – AFTERNOON PRESENTATIONS

<p>Coordinator: Ms. Olga Gkounta, Researcher, ATINER.</p> <ol style="list-style-type: none"> Michelle Newberry, Associate Professor, University of Southampton, UK. <i>Title: Attitudes towards the Use of Illegal Wildlife in Traditional Chinese Medicine.</i> Adi Mana, Senior Lecturer, Peres Academic Center, Israel. <i>Title: Individual, Social and National Coping Resources in Time of COVID-19 Pandemic: International and Longitudinal Study.</i> Almudena Moreno, PhD Student, Public University of Navarra, Spain. <i>Title: Trend in Mortality from Cancer in Rural and Urban Areas in a European Country.</i> Besmira Lahi, Chair, Department of Psychology, University of New York Tirana, Albania. <i>Title: The Rise of Students' Social Anxiety during COVID-19 Online Learning.</i>

14:30-15:30

Lunch

15:30-17:00 TIME SLOT 8 – AFTERNOON PRESENTATIONS

<p>Coordinator: Ms. Olga Gkounta, Researcher, ATINER.</p> <ol style="list-style-type: none"> Chrysoula Gitsoulis, Adjunct Assistant Professor, Baruch College, City University of New York, USA. <i>Title: What Do Hippocrates' Doctor and Aristotle's Poet Share in Common?</i> Dorota Tymura, Assistant Professor, Maria Curie-Sklodowska University, Poland. <i>Title: Therapeutic Aspect of Antisthenes' Philosophy.</i> Suzan Yesil, PhD Candidate, Texas Tech University, USA. <i>Title: The Role of Parental Involvement in COVID-19 Pandemic Trauma Recovery in Undergraduate University Student.</i>
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20:00-21:30

Greek Home-Made Dinner (includes the traditional Greek household hospitality and quality)

**Wednesday 22 June 2022
Educational Islands Cruise
Mycenae Visit**

**Thursday 23 June 2022
Delphi Tour**

Svenja Adamek

Section 2.1 'Fundamental questions, policy consultation and reporting on the world of work', The Institute for Work Design of North Rhine-Westphalia (LIA.nrw), Germany

Peter Krauss-Hoffmann

Leader, section 2.1 'Fundamental questions, policy consultation and reporting on the world of work', The Institute for Work Design of North Rhine-Westphalia (LIA.nrw), Germany

&

Corinna Brauner

Section 2.1 'Fundamental questions, policy consultation and reporting on the world of work', The Institute for Work Design of North Rhine-Westphalia (LIA.nrw), Germany

**Advancing Towards the New Normal:
Implications for Healthy and Productive Telework from a
Representative Employee Survey**

The corona pandemic has driven forward digitization across the whole of Germany and beyond, triggering an extensive telework boost. This raises questions as to how work from home can be designed in a healthy and effective way also in post-pandemic times. To identify new opportunities and emerging risks associated with these modern forms of work and determine appropriate options for action, reliable data is needed that.

The Institute for Work Design of North Rhine-Westphalia (LIA.nrw) regularly conducts a representative telephone survey of about 2000 employees aged 16 and over who live and work in North Rhine-Westphalia (Germany). Each survey wave addresses alternating main topics. In 2021 the focus was on the pandemic effects on occupational safety and health and work design as well as working from home during the corona pandemic. Furthermore, employees' satisfaction with their work-life balance, various aspects of work organization and the desire to maintain changes enforced during the pandemic, as well as employees' perceptions of stresses and strains were considered in the interviews.

During the survey period from April to June 2021 nearly four out of ten interviewed employees worked from home. The vast majority had the wish to maintain telework mostly in 'hybrid models' also beyond the pandemic situation. Analyses show that on top of chances and opportunities such as an increased working time autonomy associated with the increased use of telework, there are also risks such as communication issues, boundaryless working hours or the blurring

boundaries between work and private life. In line with this, a quarter of teleworkers always or often feel that they cannot switch off from work. Promising supportive offers such as digital measures for workplace health promotion, trainings targeting time management or working together in virtual teams and digital coffee breaks were not yet self-evident for all teleworkers.

Overall, these findings stress the need to develop and extend self-regulation and boundary management skills along with digital and social competences for virtual team work. Resource-oriented qualifications targeting employees as well as managerial staff may help teleworkers stay healthy and productive. Moreover, work-home boundary spanning support structures in terms of occupational safety and health promotion may pave the way towards a sustainable “new normal”.

Constantinos Alexiou
Professor, Cranfield University, UK

Income Inequality, Health Outcomes and Financial Crisis

This study revisits the existing relationship between income inequality and population health by subjecting it to a battery of empirical testing using different measures of inequality and health outcomes for 33 high-income OECD countries. Apart from the impact of macroeconomic covariates we also explore the effect of the global financial crisis (2007/8) on health outcomes. For the empirical investigation we have adopted panel cointegration analysis to obtain long-run estimates that are free of endogeneity bias. For robustness we also adopt a panel quantile regression (QR) in an attempt to provide a more detailed picture of the underlying relationships at several points of the conditional distribution. We find that in the long run, income inequality affects adversely population health which is also confirmed by the quantile estimates. The causal dimension however is more ambiguous whilst the global financial crisis is found to have an insignificant impact on health outcomes.

Victor Almeida

Student, University of Bologna, Italy

&

Paolo Ricci

Professor, University of Bologna, Italy

Climate Change and Human Migration: Managing the Cascade Effects Initiated by Natural Disasters

The potential links between climate change, human migration and conflict is one that has been receiving an increasing amount of attention since the turn of the century. Up-to-date reports that address the most recent understanding of climate change and environmental hazards indicate that humans have undeniably contributed to the rising global temperature and will continue to do so if lower pollution thresholds are not maintained. While this enacts a multitude of physical, biological, chemical, and societal changes, it is imperative to analyze and address the impact of climate change on human migration trends. Human migrants face several types of problems ranging from environmental issues related to climate change (sea level rise, more frequent and intense storms and floods, drought, wildfires, etc.), to conflicts from physical migration into a neighboring town, city, region, or country. This type of physical migration that is climate change driven, which can be referred to as “adaptation migration” can be capable of snowballing from a human-to-environment issue into a human-to-human conflict; usually involving some type of violence or political discrimination/persecution. Coastal areas are some of the most densely populated regions of the world, managing future adaptation migration issues that will add pressure to these regions involve analyzing how climate change is impacting human migration trends, the possible cascading effects that can result from human migration, and how these factors have influenced and will continue to influence governments and governance in the coastal area.

Diana Araja

Researcher, Riga Stradins University, Latvia

Uldis Berkis

Leading Researcher, Researcher, Riga Stradins University, Latvia

&

Modra Murovska

Associate Professor, Researcher, Riga Stradins University, Latvia

Post COVID-19 Consequences to Public Health

The Coronavirus disease caused by the SARS-CoV-2 virus (COVID-19) pandemic has changed not only global epidemiological and economic developments but also the lives of every individual, with particular severity for patients. The number of acute illness cases grew rapidly, significantly increasing the workload of hospitals, and simultaneously, new chronic diseases emerged, such as persistent post-COVID-19 syndrome (PPCS), with unclear etiology, symptoms, and complexity - similar to myalgic encephalomyelitis/chronic fatigue syndrome (ME/CFS). Accordingly, the burden of chronic diseases poses new long-term challenges for public health and requires new approaches to healthcare. The aim of this research is to provide insight into some COVID-19 pandemic revealed consequences, including an increase in the burden of chronic diseases due to new disorders such as PPCS and an extension of the existing diseases such as ME/CFS; an increase in mortality rates not only in COVID-19 directly related diagnoses but also in indirect COVID-19-related diagnoses; and tendencies of immunization. The scientific literature review, content analysis, and statistical data analysis were used to achieve the aim of this study.

Results demonstrate that there is an obvious tendency toward an increase in the burden of complex chronic diseases of unclear etiology. Under these circumstances, the importance of precision medicine is growing, including the research and use of biomarkers for diagnostics. The authors work on these issues within the Latvian Science Council's Fundamental and Applied Research project No. lzp-2019/1-0380 'Selection of biomarkers in ME/CFS for patient stratification and treatment surveillance/optimization'. At the same time, the context in which biomarkers are used may change, for instance, ME/CFS may move from the rare disease category to a wide group of diseases with similar symptoms. Accordingly, the emphasis may shift from the use of biomarkers to 'identify ME/CFS patients' to the new role of 'distinguishing ME/CFS patients' in a group of symptomatically

similar illnesses. Certainly, this is valuable if there are specific distinguished treatment methods provided.

Another consequence of the COVID-19 pandemic is increasing in mortality rates in indirect COVID-19-related diagnoses. The example of Latvia demonstrates that during the pandemic, mortality increased notably (by 9% in 2021, compared to 2020) in the group of diseases of the circulatory system (I00-I99). It can be assumed that this tendency would be associated not only with medical consequences of COVID-19 disease, but also with significant restrictions on primary healthcare availability during the pandemic, but in-depth research would be needed to identify all impact factors.

With regard to vaccination, it may seem positive that precision medicine's medicinal products became widely available and used throughout the population. However, the result is ambiguous: with particularly intensive and global-scale use, the oncoming of new resistance, 'vaccine resistance' is observed, which can rapidly expand the scope of existing 'antibiotic resistance' and its induced problems, posing significant challenges to contemporary society. The results of these findings can help in forecasting future scenarios, to increase their value under persistent conditions of uncertainty. Additionally, this study outlines the contours for further research on the post-COVID-19 impact on public health.

Carmelo Bernabeu

Researcher, Margarita Salas Center for Biological Research, Spanish
National Research Council (CSIC), Spain

&

Elisa Rossi

Associate Professor, University of Paris, France

**Role of Human Endothelial Endoglin in Cell Adhesion:
Current Status and Perspectives**

Human endoglin (ENG) is a cell surface transmembrane glycoprotein highly expressed by endothelial cells. ENG is a key regulator of cardiovascular homeostasis, and is involved in several clinical disease conditions, including Hereditary Hemorrhagic Telangiectasia (HHT), preeclampsia, cardiac remodeling, tumor vascularization or pulmonary hypertension. Mutations in the ENG gene are responsible for Hereditary Hemorrhagic Telangiectasia (HHT) type 1, an autosomal-dominant vascular disease characterized by mucocutaneous telangiectases, arteriovenous malformations in the lung, brain and liver, frequent epistaxis and gastrointestinal bleeding. Also, targeting of the membrane bound ENG by matrix metalloproteases (MMP) like MMP-12 and MMP-14 can release a circulating or soluble form of endoglin (sENG), whose levels are abnormally elevated in preeclampsia. This is a pregnancy-specific disease which affects up to 5% of pregnant women worldwide and is the major cause of fetal and maternal mortality in developed countries. Elevated sENG levels have been reported to play a pathogenic role in preeclampsia associated hypertension and proteinuria, as well as in endothelial dysfunction. Despite its importance in human pathophysiology, the mechanisms by which endoglin acts in these clinical conditions are largely unknown. Thus, during recent years multiple studies have actively trying to deepen the knowledge of the expression, structure and function of endoglin that hopefully will allow a better understanding of the molecular mechanisms by which this protein is involved in disease. It has been widely described the key role of endoglin in endothelial cells as an auxiliary receptor for the transforming growth factor beta (TGF- β) family members, especially bone morphogenetic protein 9 (BMP9) and BMP10, as well as its association with the type I (ALK1) and type II (BMPRII, ActR2A, ActR2B) serine/threonine kinase TGF- β receptors. In addition to its involvement in the TGF- β signaling pathway, more recent studies have investigated the role of endoglin as a cell adhesion molecule. Among others, these studies were prompted by the fact that the endoglin amino

acid sequence of its extracellular region contains the tripeptide arginine-glycine-aspartic acid (RGD) that is a consensus motif recognized by the integrin family of adhesion proteins. Under inflammatory conditions the capacity of endothelial endoglin to act as a counter-receptor of the leukocyte integrin $\alpha 5\beta 1$, thus regulating not only endothelium-leukocyte adhesion, but also leukocyte extravasation, has been demonstrated. In addition, it has been described the adhesion between endoglin of vascular endothelial cells and $\beta 1$ -integrins in vascular mural cells. Endoglin has also been shown to promote specific platelet adhesion under static conditions conferring resistance of adherent platelets to detachment upon exposure to flow. Interestingly, the RGD motif is also present in circulating sENG, where it has shown its capacity to bind cell surface integrins by competing with membrane-bound endoglin. The overall, process of endoglin-dependent cell adhesion to integrins was found to be stimulated under inflammatory conditions via the chemokine CXCL12 and its capacity to reinforce integrin stimulation. Taken together, these data suggest a role for endothelial endoglin in (i) leukocyte adhesion and extravasation, (ii) vascular mural cell adhesion to endothelium, and (iii) platelet adhesion to the endothelium during hemostasis.

Zoe Boutsoli

Vice President of Publications, Athens Institute for Education and
Research (ATINER)

Victoria Bigelow

Fulbright Scholar, Athens Institute for Education and Research
(ATINER)

&

Olga Gkounta

Researcher, Athens Institute for Education and Research (ATINER)

Essays on COVID-19 Research

COVID-19 has entered its third year and the effects have been devastating. The obvious one is the loss of lives which by now account for millions of people worldwide. The world academic community reacted quickly, resulting in a mass of publications on the various aspects of the pandemic, including the most important aspect of which is the medical and health effects and the development of vaccines to fight the virus. The plethora of studies on COVID-19 makes a comprehensive survey almost impossible. Instead, this survey provides a selective review of a sample of 31 studies that resulted in a book publication based on articles that have been published in various ATINER academic journals since the beginning of the COVID-19 pandemic. The aim of this survey is to summarize the main research findings of these studies and highlight their major conclusions. These studies cover research related to COVID-19 from a variety of research fields that include Health; Mass Media and Communication; Sociology; Business and Economics; Tourism; Education; and Law.

Martha Chadyiwa

Lecturer, University of Johannesburg, South Africa

Adherence to Standard Occupational Health and Safety Guidelines in Medical Laboratories in Harare, Zimbabwe

Occupational health and safety is an integral part of medical laboratory practice. Adherence to standard occupational health and safety practices is important in preventing laboratory accidents, laboratory-acquired infections and toxic chemical exposures. Adherence to standard occupational health and safety standards is critical to laboratory accreditation with local and international bodies.

The main objective of the study was to evaluate the adherence to standard occupational health and safety guidelines in medical laboratories.

A quantitative cross-sectional study was conducted in Harare metropolitan province of Zimbabwe. A sample size of 27 laboratories was considered. The data was collected using a questionnaire and laboratories which were considered in this study were sampled using stratified random sampling. Data was analyzed using SPSS. Assessment of compliance to different aspects of occupational health and safety was done using Fischer's exact Chi-squared test and logistic regression.

There was a significant association between laboratory ownership of ISO:35001 to the number of years of operation of the laboratory ($p=0.018$), to the standard organization of laboratory premises and workflow ($p=0.027$), to laboratory cleaning and waste management standards ($p=0.002$), to good laboratory practices and provision of personal protective equipment ($p=0.011$). Compliance with occupational health and safety standards in the laboratory was about 97% significantly lower among level 2 bio-safety containment laboratories compared to level 3 bio-safety containment laboratories (crude odds ratio (COR): 0.03, 95% CI: 0.00-0.76, $p=0.033$). The overall assessment showed that a quarter (25.9%) of the 27 laboratories had high compliance to standard occupational health and safety standards. Overall compliance to occupational health and safety standards was about 10 times significantly higher among laboratories that owned ISO: 35001 (COR: 9.51, 95% CI: 1.39-65.05, $p=0.022$).

Enforcement of standard occupational health and safety standards needs to improve to protect people working in the laboratories. National level interventions including medical laboratory-specific legislation on occupational health and safety can greatly improve adherence to standard occupational health and safety standards.

Sam Coley

Senior Lecturer, Birmingham City University, UK

**UK Radio's Response to COVID-19:
A Reappraisal of Radio as a 'Crisis' Medium through the
Exploration of a Production Case Study**

Radio has earned a reputation for reliability in times of crisis. While new technologies may have challenged the medium's status as an entertainment provider, it continues to play a crucial role in disaster management systems around the world. Radio's ability to provide early warnings and help in the coordination of relief efforts is a well-known strength, alongside its portability and ease of use. However, this presentation focuses on the medium's capacity to build a sense of collective community during ongoing emergencies, by considering UK radio's response to the COVID-19 pandemic in 2020. According to Radiocentre CEO Siobhan Kenny, radio helped listeners to stay connected during the UK's first wave lockdown. She commented, "we are all finding our own ways to cope during the pandemic, and it's great that radio is proving such a consistent source of comfort and trusted news to so many". I explore various award-winning industry responses that radio programmers and producers developed to address the isolation many listeners felt. I also explore the production of a series of radio documentaries, created by Birmingham City University in partnership with the Greatest Hits Radio network, to demonstrate how the pandemic impacted on radio production techniques. This case study was funded by a 'Coronavirus Support' grant from the UK's Audio Content Fund, a Govt supported initiative to "improve lives during COVID-19". The project, titled 'Cities of Sound' utilized the talent of radio students and graduates from 5 UK universities to create compelling radio content for audiences across the UK. I unpack the strategy behind the production of these documentaries and explore their ambition to provide companionship and a sense of community. As Norris and Stevens (2008, 1) observe, radio has a resilience that is "as strong, and perhaps stronger, than that offered by other media". In this presentation, I show how UK radio's response to COVID-19 serves as a timely reminder of its key strengths and underscores its ongoing relevance as an electronic medium.

Lotte Daniels

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Wim Marneffe

Associate Professor, Hasselt University, Belgium

&

Samantha Bielen

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Virtual Reality Evidence on the Impact of Physicians' Open versus Defensive Communication on Patients

Using Virtual Reality (VR), we analyse in an experimental setting how communicating more openly about a medical incident influences patient's feelings and behavioural intentions. Using VR headsets, participants are immersed in an actual hospital room where they are told by a physician that a medical incident occurred. In a given scenario, half of the participants is confronted with a physician that communicates openly about the medical incident, while the other half is confronted with the exact same scenario except that the physician employs a very defensive communication strategy. The employed technology allows us to keep everything else in the environment constant. Participants exposed to open disclosure are significantly more likely to take further steps (such as contacting a lawyer to discuss options and filing a complaint against the hospital) and express more feelings of blame against the physician. At the same time, these participants rate the physician's communication skills and general impression better, compared to those who are confronted with a defensive physician. Nevertheless, communicating openly about the medical incident does not affect trust in the physician and his competence, perceived incident severity and the likelihood to change physician and file suit.

Birgitta Evengård

Professor, Umeå University, Sweden

&

Tomas Thierfelder

Associate Professor, Swedish Agricultural University, Sweden

Climate Change and Transition of Infectious Diseases in the North

As the terrestrial realms of the Arctic thaw with climate change, relative southern infectious diseases carried by vector organisms such as ticks and mosquitoes may migrate with landscape transitions and transmit onto humans and domestic animals of the far North. The OneHealth effects of such potentially expanding climate sensitive infections (CSI's) constitute a serious global threat. In order to identify CSI's, data concerning human infections were procured from national health reporting systems to cover the current thirty-year climate reference period from western Greenland to the pacific coast of Russia, from approximately 55 to 80 degrees north. The diseases chosen for their relevance to northern communities were, borreliosis, brucellosis, cryptosporidiosis, leptospirosis, listeriosis, Puumala haemorrhagic fever, Q-fever, rabies, tick-borne encephalitis, trichinellosis, and tularaemia. Preliminary results indicate that several of these infections are due to significant regional geographic translation and/or expansion trends, and that the associated northern societies hence are due to changing CSI exposure. In addition, for each of the selected infections, their respective thirty-year average incidences were used to define "diseases climates" for future reference. Incompatibilities across national health reporting systems were constraining the possibilities to infer international infectious characteristics.

Michael Galea

Senior Lecturer, University of Malta, Malta

COVID-19, our Elderly and their Careers: The Way Forward

The present COVID-19 pandemic threatens humanity in various ways, especially due to the unpredictable nature of its course and progression. The particular impact of COVID-19 on mental health varies from place to place, but it has been widely felt all over, even at present, when many countries have progressed well in rolling out vaccines. The impact is more pronounced on vulnerable groups within every population. In this study, we focus on the pandemic impact on the elderly's mental health in Malta and how we can prepare for future situations that may potentially serve as real threats, as we have learned from COVID-19.

Data was gathered from ongoing research by Richmond Foundation Malta, a local NGO, and published in the public domain, during an eleven-month period (2020/21) during eight different time-points.

Findings point at four areas that require paramount attention, when dealing with such a global threat to humanity. First, a gradual increase in anxiety and stress across the board was clearly felt. Second, this pandemic has taught authorities as it progressed, being a novel experience to many. This has sent out mixed signals to people about its handling by authorities. Such signals clearly influenced many's trust standing regarding their future. Thirdly, a steady increase in respondents' concerns (about own safety) and an increase in outreach towards family members and close friends was clearly noted, and finally, mixed results were elevated on respondents' own self-care.

This study points at two crucial aspects that arise from respondents' responses to the pandemic: first, the importance of the interpersonal domain (concern about one's own and others' well-being: Me - Other/s), and secondly, the relevance of the intrapersonal realm (self-care). A number of practical suggestions were thus provided.

Chrysoula Gitsoulis

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What Do Hippocrates' Doctor and Aristotle's Poet Share in Common?

Hippocrates believed that disease resulted from an imbalance of the four "bodily humors" (blood, phlegm, black bile, and yellow bile). Being too hot, cold, dry or wet disturbed the balance between the humors. The person would then become sick and remain that way until balance was restored. In the Hippocratic Corpus, the term "catharsis" was used to mean the removal or purging (cleansing, discharging) of the disease-causing elements, through, e.g., sweating, vomiting, diarrhea, or blood-letting, so as to restore balance between the humors. "Catharsis" was applied by the Greeks not only to physical states but to emotional states. Aristotle, for example, uses it to describe the effects of music and drama on the emotions. Music and drama can be used to "purge" mental disturbances by artificially stimulating the passions of an audience, leading them to an emotional climax, which would be followed by relief and calm pleasure. Just as the art of the doctor is directed toward healing the body (by restoring balance in our physical constitution), the art of the poet can be viewed, and arguably was viewed by Aristotle, as directed toward healing the soul (by restoring balance in our emotional constitution), and in this respect, the poet serves as a useful ally to the philosopher, whose art, for the Greeks, was also directed at healing the soul. In the paper, I develop the analogy between the poet and the doctor by exploring the texts of Aristotle and Hippocrates in greater depth.

Golnoush Kazeminezhad

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Impact of Legalizing Recreational Marijuana on Physical Violence among Adolescents

With drug legalization comes the fear of adverse effects on the individuals and the societies. Marijuana is a soft drug that has a long history of being used for medical purposes as a pain reliever but with the growing use of the drug nowadays for recreational purposes as the drug becomes legal in different parts of the world specially in the United States, there is a raising concern over its impact on the social aspects of humans' lives. Legalization of Marijuana for medical and recreational purposes has shown positive effects in dropping the number of violent crimes among adults. But unlike the observed effect on adults, a negative relation has been identified for younger people. The current study seeks to identify the causal effect of Marijuana legalization on the number of physical fights among adolescents by using the ballot measure legalization enacted by the state of Alaska in 2014 which legalized the Marijuana consumption for recreational purposes in the state. Using difference-in-differences design, the policy shows to cause a significant increase in the number of physical fights among adolescents in the 9th to 12th grades. The results from using the data from Youth Risk Behavior Surveillance System, show that the legalization causes a 0.104 increase in the number of physical fights among adolescents after the legalization in 2014 in Alaska. Medical claims backup the empirical findings in the current study; brain developing stage in teenagers make them more susceptible to the hurtful effects of marijuana and thus could cause reverse effects on them compared to adults with fully developed brain systems. While the legalization of drugs, especially Marijuana can have positive effects on the economy and decrease the pressure on the law enforcement by the police, but the adverse effects of this legalization especially on the younger generation should also be fully investigated and considered by the law makers and public health officials in the best interest of the society.

Zahra Khazaeipour

Associate Professor, Tehran University of Medical Sciences, Iran

Indirect Effects of COVID-19 in Referring Patients to Hospitals in Iran

COVID-19 has captured the world. We hypothesized that this pandemic reduced referral of other non-COVID-19 patients to the hospitals or clinics, including cardiovascular, diabetes mellitus, neurological, neurosurgical diseases, gynecological and perinatalogical referrals.

In this retrospective study, referrals of patients in a large teaching hospital of Tehran University of Medical Sciences (TUMS) were compared from February 20 to May 20, 2020, with the same period in 2019. Finally, referral trends in 2020 were compared with the COVID-19 admission pattern. The descriptive analyses were reported as number of referrals to clinics.

Total admissions to all clinics declined about 65% in 2020 compared to 2019. On the subject of obstetrics and gynecology, the reduction in referrals to the gynecology clinic was more than gynecologic oncology and perinatology. The COVID-19 referral pattern was conversely linked to gynecology-related admissions.

Heart surgery clinic displayed the highest decline (477 vs 1463, -67%) and diabetes clinic experienced the lowest decline (403 vs 840, -52%). Declining trend was also observed in other three clinics (-64-66%).

As the pandemic situation makes patients hesitant to go to the hospitals or not, health policymakers should consider other non-COVID issues, including maternal and fetal concerns. Especially Women can be at risk in limited use of health services. Providing safe places for other patients to visit is a goal that can be achieved through developing guidelines for nosocomial hygiene and training informed healthcare staff. Moreover, non-urgent visits should be avoided or postponed. This issue calls for new strategies, including telemedicine in situations similar to the current pandemic to both identify and manage such conditions. During an infectious epidemic, steps must be taken to ensure that the care and treatment of other diseases is not compromised.

Johannes Khinast

Director, Institute of Process and Particle Engineering, Austria

High Speed Technology for the Manufacturing of Next Generation Drugs

The current Corona crisis has drastically shown us, to what great extent Europe depends on threshold countries such as China and India in terms of production of drugs and medical devices. In a globalized world complete self-sufficiency is – of course – neither possible, nor desirable. However, the current situation shows the dire need for Europe to become as independent as possible and to bring API production back to Europe – not only to master the current crisis, but also to be able to react fast, efficient and autonomous in case of a new health crisis in the future and thus, save human lives. RCPE is planning a new production facility for oral dosage forms (tablets and capsules), which will allow to manufacture high-quality emergency-drugs (e.g., against COVID-19) within a few weeks as soon as a potent API has been identified.

However, it is obvious that the current pandemic cannot be ended solely by vaccines: Not only do vaccines lose efficacy as soon as the virus changes (“escape”), manufacturing is slow, costly and poses significant logistic challenges. In addition, 20% to 50% of the population reject vaccines. Hence, drugs that focus on reducing damage by virus-associated inflammation and/or slow down virus replication/entry need to be an equal weapon against the Corona virus. It is important to make sure that there are not only highly-efficient drugs available but also the technology to produce them at the necessary speed. The major advantage of RCPE’s High-Speed Technology compared to the traditional approach is the fact that the material flows through the system similar to an assembly line, while the quality of the product is checked in real-time by online sensors and not via lengthy quality lab assessment (Continuous Manufacturing). Production costs can be kept low, as variations in quality are avoided, production plants can be kept small and storage costs are low. This will enable Europe to compete with low-wage countries like China and India while making the drugs affordable for every patient.

Dimitrios Kourouklis

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Edward Oliver

Economist, Office of Health Economics, UK

&

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**Do R&D Tax Credits Impact Pharmaceutical Innovation?
Evidence from a Synthetic Control Approach**

Research and development (R&D) in pharmaceuticals has been often judged as suboptimal due to barriers to entry, including the size of the required investment and other factors that cause the market to fail. R&D tax credits are one of the push methods governments use to incentivise innovation fiscally. R&D tax credits for the life sciences industry aim to promote innovation by reducing R&D costs and increasing expected returns. The underlying argument is that these incentives ultimately benefit the population's health while generating economic activity. However, the extant literature has yet to capture precisely the effects on innovation of this policy instrument. This paper studies the impact of the Research and Development Expenditure Credit (RDEC) scheme introduced in the UK in 2013-14. We use the Synthetic Control Method to compare innovation output in the UK, measured by the number of new clinical trials, to an ad hoc control created using a group of comparable countries. Results indicate that the scheme increased the number of new phase I clinical trials by about 46% one year after implementation. The treatment effect was weaker two years after the initiative's enactment but still present. A smaller lagged effect on phase II trials was also observed, by which trials increased by 32% four years after the policy implementation. The positive effect was significant in the short run for phase I and phase II trials but not significant for phase III trials. Overall, the results suggest that, under certain circumstances, R&D tax credits can be helpful to stimulate innovation in the pharmaceutical sector.

Hannele Laaksonen

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&

Tia Bäckström

Tampere University of Applied Sciences, Finland

Finnish Remote Leadership in Home Care during the Pandemic

This study was conducted as part of the national *The More Remotely – work in social and health care is changing* project (2019–2022). The purpose of this qualitative study was to clarify how functional e-leadership works from the perspective of superiors and to gain new information on the functionality and development needs of e-leadership. The data consisted of the material collected via a group-based themed interview, memoranda written by members of the training groups and assignments submitted by the participants. The data were analyzed through material-driven content analysis.

The results show that e-leadership is based on the same principles as good leadership in general: communality, trust, interaction and clear ground rules. When these sections are in order, e-leadership works. Positive sides of e-leadership that emerged include faster, real-time sharing of information and the decoupling of work from a specific place. Work was seen as more efficient and productive. The greatest challenges to e-leadership are problems related to technology, such as failing programs and devices, constant changes and a lack of guidance. e-leadership was seen as increasing anonymity and distance within the workplace. Superiors felt that physical meetings were needed to support e-leadership.

Central development proposals included familiarizing people with the culture of e-leadership and increasing knowledge and use of various programs and devices. There is also a need to clarify the ground rules, scheduling and practices of remote conferences and to constantly gather feedback on the functionality of e-leadership. Teaching about e-leadership as part of basic studies in the social and health care field would prepare future professionals to being led remotely.

Besmira Lahi

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The Rise of Students' Social Anxiety during COVID-19 Online Learning

This paper introduces us about one of the psychological disorder tendencies reflected in students during COVID-19 pandemic and online learning. The research objectives of this research consist in: (1) Identification of students' interaction during COVID-19 teaching and learning process; (ii) Understanding students' psychological wellbeing during online learning in COVID-19 pandemic times; (iii) Comparison of the Albanian students' academic wellbeing with other students in the world. Therefore, the research questions of the study are as the following: Which are the students' stressors during COVID-19 online learning? How is students' psychological wellbeing during online learning process in COVID-19 pandemics? How similar are our students' reactions in comparison to other students in the world? Literature review and qualitative research data was collected in Albanian students living and studying in Albania. Content analysis was provided reporting effects of the lacked social interaction during the online learning in COVID-19 pandemic times; a rise of the social anxiety and worry about the self-image concept as self-reported from students. Findings show that Albanian students' psychological reaction was consistent in nature with other students being exposed to the same online learning environment in the world.

Adi Mana

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Individual, Social and National Coping Resources in Time of COVID-19 Pandemic: International and Longitudinal Study

Understanding, responding to, and preventing disasters requires a multidisciplinary approach. During COVID-19 there have been contributions by bench scientists studying the pathogenic aspects of the illness as well as medical and social scientists understanding the multi-layered impacts of the global pandemic. Our study is based on the salutogenic approach which asks about the individual and collective perceptions of coping resources available and the relationship between these resources and levels of anxiety and mental health. We also studied of the role of the socio-national context in which the crisis occurred and whether it may also contribute to the understanding of the reactions of individuals in the unusual event of the COVID-19 crisis.

The study examined the personal (sense of coherence), social resources (social support), and national resources (trust in public institutions and leaders, and sense of national coherence), that enabled high levels of mental health and low levels of anxiety in time of the pandemic crisis.

Our international study was carried out in nine countries: Israel, Italy, Spain, the Netherlands, Germany, Switzerland, Austria, Brazil, the U.S.A, during the time of outbreak of COVID-19 pandemic. We conducted a longitudinal study in Israel during six phases during the first year of the crisis.

We found that Sense of coherence (SOC) was a main and stable coping resource among the participants from all countries included in the study. However, differences were found in the levels of perceptions of national coping resources among different social groups.

A strong SOC is crucial for health and survival during times of global and local crises.

During regular times, and especially in times of crisis, leaders and policy makers should prioritize strengthening sense of coherence of the population. Therefore, the messages to the public should be created and designed to enhance comprehensibility, manageability, and meaningfulness of the pandemic and trust in government and public health initiatives.

Almudena Moreno

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&

Enrique Regidor

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Trend in Mortality from Cancer in Rural and Urban Areas in a European Country

The objective of this study was to estimate the trend in cancer mortality according to the rural or urban area of residence in Spain between the years 2003 and 2018.

We selected all deaths assigned to the International Classification of Diseases (ICD-10) for the total diabetes number of malignant tumors. The population, the number of deaths and the population according to the age, sex and population size of the municipality of residence have been obtained from the National Institute of Statistics. The size of the municipality of residence has been grouped into three categories: less than 10,000 inhabitants (rural areas), between 10,000 and 100,000 inhabitants (small urban areas) and more than 100,000 inhabitants (large urban areas). In each area we have calculated the average annual percentage change in mortality rate (APCM).

Between 2003 and 2018 the APCM in the mortality rate from cancer in large urban, small urban and rural areas was respectively -1.6, -1.4 and -0.7 in men, and -0.7, -0.6 and -0.3 in women.

Rural areas showed less decrease in mortality from cancer than urban areas. Both in rural and urban areas mortality fell more for men than for women.

Zaeem Moti

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Antibiotic Therapy versus Appendicectomy: An Economic Evaluation on Treatment for Acute Uncomplicated Appendicitis

Current UK National Health Service (NHS) guidelines recommend appendicectomy as gold standard treatment for acute uncomplicated appendicitis. However, an alternative non-surgical management involves administering antibiotic-only therapy with significant lower costs. Therefore, a UK-based cost-utility analysis (CUA) was performed to compare appendicectomy with an antibiotic-only treatment from an NHS perspective.

This economic evaluation modelled health-outcome data using the ACTUAA (2021) prospective multicentre trial. The non-randomised control trial followed 318 patients given either antibiotic therapy or appendicectomy, with quality of life (QOL) assessed using SF-12 questionnaires administered 1-year post-treatment. A CUA was conducted over a 1-year time horizon, measuring benefits in quality adjusted life years (QALYs) and costs in pound sterling using a propensity score-matched approach to control for selection on observable factors.

The CUA produced an incremental cost-effectiveness ratio (ICER) of -£23,278.51 (-£27,227.80) per QALY. Therefore, for each QALY gained using antibiotic-only treatment instead of appendicectomy, an extra £23,278.51 was saved. Additionally, two sensitivity analyses were conducted to account for post-operative or post-treatment complications. The antibiotic-only option remained dominant in both scenarios.

While the results do not rely on a randomized sample, the analysis based on a 1-year follow-up suggested that antibiotics were largely more cost-effective than appendicectomy and led to improved QOL outcomes for patients. The ICER value of -£23,278.51 demonstrates that the NHS must give further consideration to the current gold standard treatment in acute uncomplicated appendicitis.

Michelle Newberry

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Attitudes towards the Use of Illegal Wildlife in Traditional Chinese Medicine

One of the main drivers of the illegal wildlife trade (IWT) is the increased global demand for traditional Chinese medicine (TCM). TCM refers to traditional medicinal and therapeutic practices that have developed over thousands of years in China. Whilst the basis of many TCMs are medicinal plants, a variety of health benefits have been purported for animal-based TCMs, and subsequently a number of wildlife species are highly coveted. For example, pangolin scales can allegedly treat liver disease, gynaecological disorders, tumours, and skin disorders. Rhino horn is believed to treat cancer, hangovers, and clear toxins trapped in the body, and bear bile is a professed cure for gallbladder diseases and liver tumours. Wildlife is often captured illegally in its natural environment by farmers or poachers, or kept in inappropriate conditions such as illegal wildlife farms, and such exploitation is contributing to species decline. Prior research has explored people's awareness of conservation issues and whether their awareness is related to their attitudes towards TCM. Few studies have examined whether awareness of the IWT, especially relevant legislation, is related to attitudes towards TCM. In addition, most previous studies have tended to focus on attitudes toward TCM in countries where its use is most widespread. This study therefore sought to investigate awareness of the IWT and attitudes toward TCM in the UK. Participants were recruited from the general population via social media and invited to complete an online survey about their awareness of the IWT and attitudes towards TCM. The British Psychological Society (BPS) Code of Human Research Ethics was adhered to at all times. Data were analysed using the Statistical Package for the Social Sciences (SPSS) and preliminary results suggest that participants have a low level of awareness about the IWT. Further analyses will explore whether there is a significant association between awareness of the IWT and attitudes towards the use of wildlife or wildlife derivatives in TCM, as well as demographic differences.

Nawal Ouhmad

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Nicolas Combalbert

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&

Wissam El Hage

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Impact of Post-Traumatic Stress Disorder (PTSD) on Executive Functioning

Post-Traumatic Stress Disorder (PTSD) is a condition characterized by several impairments in an individual's executive functioning. Although relatively few studies have been conducted on disturbances in executive functions among subjects with PTSD (Polak et al., 2006), there is evidence that some executive functions may be disturbed because of PTSD (Tapia et al., 2007; Schuitevoeder et al., 2013), which prevents them from implementing effective strategies to cope with the difficulties following the traumatic event. We were interested in the link between executive functions and the presence of anxiety and depression in a clinical population with post-traumatic stress disorder.

The study was performed in accordance with the World Medical Association's Code of ethical principles for medical research (Declaration of Helsinki). The approval of an ethics committee was required and given by the Tours-Poitiers Research Ethics Committee (CER-TP n°2020-07-02). All the participants gave their consent after they had been informed of the purpose of the study. Moreover, the datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request. We excluded individuals reporting other psychiatric disorders (e.g., bipolar disorder, substance use disorders, and other psychotic disorders), a history of physical injury that could impact outcomes (e.g., head injury) (Tudorache et al., 2020), and use of psychotropic medications for the non-PTSD groups. An intergroup comparison was performed on the 180 participants divided into 3 groups. First group (n=60) was recruited from a psychotrauma center, second group (n=60) was recruited from victim support associations, and third group (n=60) was recruited from the general population. All participants completed a questionnaire validated by the ethics committee, including the PCL-5, DES-T, the N-Back test, the Stroop test, the Trail Making Test and the HADS.

Our findings clearly indicate that the observed impairments in executive functions, particularly in working memory updating, can be explained by the high level of depression. For this reason, it is

recommended that comorbid disorders be managed before treating PTSD itself (Olf et al., 2014, ICD-10, 2008, DSM-5, 2015). Indeed, executive function disturbances may be explained by the high level of depression, rather than PTSD. This is not the case for anxiety.

Finally, it would be relevant to extend the experimental design used here to the study of traumatic events likely to cause a specific type of disorder.

Furthermore, we were concerned that the pandemic would create and/or exacerbate symptoms related to previous trauma (Breslau et al., 2008, 1999; Brunet et al., 2001), however although the global Sars-Cov-2 (COVID-19) pandemic literally disrupted the general functioning and the mental health of the world (lockdown, curfews...), the results would appear to be in accordance with the data obtained outside the global pandemic period.

Ken Roberts

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Back to Normal?

Time Use, Work and Leisure in the UK Before, During, Between and Following the COVID-19 Lockdowns

This paper presents findings from time use surveys in the UK which were conducted prior to, during and following the COVID-19 lockdowns in 2020 and 2021. These findings are set against the background of evidence from similar surveys in the UK, and globally, from the 1960s onwards. The indications are that the UK lockdowns have accelerated a shift of paid work from workplaces to homes with savings in travelling time to which the closure of out-of-home leisure services during lockdowns also contributed. A post-pandemic outcome has been an increase in leisure time which is being used for exercise, DIY and gardening, but mainly media use with a shift from 'traditional' television to streamed services and social media, accessed on mobile devices. These trends are evident among men and women, in all age groups and all income bands. They are being accompanied by a decline in mental well-being and reduced trust, all part of a societal long COVID.

Sayin San

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Another Aspect of Gender Discrimination: Obesity in Turkish Women

A significant part of gender discrimination literature focuses on the exclusion that obese women experience in socioeconomic life. In this study, contrary to conventional research, the obesity issue for women is discussed as a result of gender discrimination in Turkey. In this study, the differences in mean body mass index (BMI) between working and non-working women are analyzed. Housewives are defined as being excluded from socioeconomic life and are classified as non-working women. Examination of the association between the working status of women and BMI, in addition to daily activities and dietary habits, socioeconomic characteristics such as education, age, marital status, and income level are also examined. The variables considered in this study are derived using the Turkey Health Survey micro dataset. In 2016, the obesity rates of working and non-working women were 19% and 31%, respectively. One of the reasons for this enormous difference is the routine activities of women. Approximately 67% of working women describe their daily life as active because they are involved in business life, while more than half of non-working women describe their daily life as sedentary. Based on the results of two-way ANOVA, it is determined that the impact of daily activities on the relationship between the working status of women and the BMI is statistically significant. However, the association between women's working status and the BMI is not affected by daily non-routine walking and sports. Among the socioeconomic factors, age and education level do not have a statistically significant interaction effect on the relationship between women's working status and the BMI. These findings indicate that women's spare-time activities or dietary habits do not depend on their working status in Turkey. One of the most important factors for the higher BMI of non-working women is that they do not participate in the activities associated with working life.

Aadil Sheikh

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The Utility of Smartphone-based Artificial Intelligence Approaches for Diabetic Retinopathy: A Literature Review and Meta-Analysis

Diabetic retinopathy is becoming a major public health concern for health systems worldwide. We sought to assess the diagnostic accuracy measures such as sensitivity and specificity of smartphone-based artificial intelligence (AI) approaches in the detection of diabetic retinopathy (DR).

A literature search of the EMBASE and MEDLINE databases (up to March 2020) was conducted. Only studies using both smartphone-based cameras and AI software for image analysis were included. The main outcome measures were pooled sensitivity and specificity, diagnostic odds ratios and relative risk of smartphone-based AI approaches in detecting DR (of all types), and referable DR (RDR) (moderate nonproliferative retinopathy or worse and/or the presence of diabetic macular edema).

Smartphone-based AI has a pooled sensitivity of 89.5% (95% confidence interval [CI]: 82.3%-94.0%) and pooled specificity of 92.4% (95% CI: 86.4%-95.9%) in detecting DR. For referable disease, sensitivity is 97.9% (95% CI: 92.6%-99.4%), and the pooled specificity is 85.9% (95% CI: 76.5%-91.9%). The technology is better at correctly identifying referable retinopathy.

The smartphone-based AI programs demonstrate high diagnostic accuracy for the detection of DR and RDR and are potentially viable substitutes for conventional diabetic screening approaches. Further, high-quality randomized controlled trials are required to establish the effectiveness of this approach in different populations.

Mia Athina Thomaidou

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Mental Illness as a Sentencing Determinant: Comparative Analysis of New York and Kansas Case-Law based on a Novel Machine Learning Methodology

This study explores sentencing outcomes for offenders with mental disorders in New York (NY) and Kansas (KS) and aims to identify factors that influence sentencing decisions for those with psychophysiological disorders. Individuals with mental disorders are more likely to show irrepressible propensities towards criminality and may also be disproportionately affected by criminal sanctions, compared to healthy people. Within the United States (US), decisions such as the abolition of the insanity defense in KS suggest that different jurisdictions under the same constitution may show a markedly localized and dissimilar response to crime. A first step towards addressing the harms of criminally punishing people with mental disorders is understanding what factors may contribute towards potentially biased, inconsistent, and disproportionate punishments. We employed a novel, 4-step analytical approach, using a series of descriptive, qualitative, inferential, and machine learning analyses. The objective of the current study was to shed light on the intricacies of sentencing determinants in cases involving mentally ill defendants, with a comparative focus on NY, a politically liberal state, and KS, a more conservative state. Recent case-law ($n = 130$) from appellate courts in NY and KS was analyzed with the aim to compare sentence type, severity, and length, as well as factors that may contribute to differential sentencing outcomes between the two states. The most prominent finding resulted from our machine learning approach, indicating that in NY and KS mentally ill criminal offenders have on average a 71.4% chance of imprisonment, with first-time violent offenders with a mild disorder facing the highest probability of ending up behind bars. Our inferential analyses also showed that more serious mental illness leads to lesser custodial sanctions. Overall, KS ordered significantly more severe sentences for mentally ill offenders, compared to NY. Our qualitative analysis of the case-law data also highlighted that KS higher courts overwhelmingly affirm decisions that are against the interests of defendants -this at rates significantly higher than in NY appellate courts. These findings offer significant contributions to the fields of psychology, biocriminology, and forensic research: a novel methodology for comprehensive analyses of multifaceted data was developed, and important patterns of sentencing determinants were

identified via machine learning, that reliably predict whether mentally ill offenders are likely to end up behind bars. These results are discussed in relation to mental illness, punishment proportionality, and misconceptions regarding innate versus acquired mental illness.

Dorota Tymura

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Therapeutic Aspect of Antisthenes' Philosophy

The aim of this article is to present the philosophy of Antisthenes of Athens as a specific type of philosophical therapy closely connected with the Socrates' model. According to ancient tradition, Antisthenes himself was considered the most faithful disciple of Socrates, not only in terms of his lifestyle, but also in terms of philosophical considerations. Nevertheless, historians of philosophy still do not pay sufficient attention and interest to reflect such honorable opinion of the ancients. The few modern works devoted to the philosophy of Antisthenes interpret his fragmentarily preserved ethical thought only from the Cynic perspective, that he initiated, without even referring to the Socrates' ethics of which, in the opinion of the ancients themselves, he was the only true heir and continuator. Like his master, Antisthenes deepened ethical issues, abandoning his previous research in the field of rhetoric, logic, language or knowledge.

The inspiration of Socrates' life mode and his skilful implementation in it of the fundamental understanding of virtue as a unity of knowledge and action contributed to the gradual formation of theoretical assumptions of the Cynic movement, the author of which was Antisthenes himself. This philosopher took over from the ethics of Socrates the basic concepts, such as *arete*, *enkrateia*, *eleutheria* and, above all, *autarkia*, giving them a specific radical Cynic dimension. This decisive radicalization of some of Socrates' views, such as the transformation of *autarkia* into the concept of not-needing-anything (τὸ μηδενὸς προσδεῖσθαι) was Antisthenes's reaction to the then deep moral crisis which, like his master, he tried to remedy by offering the only proper medicine - philosophy. It was, above all, a practical philosophy that showed a man how to live in order to be able to call his existence, following Socrates, "a life worth living". The Socratic dimension of this philosophy is perfectly illustrated by Xenophon's Socratic writings, which are also one of the most important sources of understanding Antisthenes' ethical thoughts, thus showing the essential relationship between them. The Cynic philosophical thought of Antisthenes appears in them, especially in the *Symposium*, as a peculiar therapy of human souls, and the philosopher himself can therefore be described as a "physician of the mind" (ιατρὸς ψυχῆς). He perfectly recognized the state of a special kind of intoxication deeply embedded in society and its addiction to inborn impulses and instincts as well as attachment to irrational traditions and customs. And his treatment with

the help of philosophy boiled down to a thorough return to rationality, rejection of excessive bodily desires and continuous shaping of one's own personality through work on oneself and practicing virtue, which would become not only the basis of cynic, but also stoic mode of life.

Nileena Velappan

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Developing Antibodies to Viral Envelope Proteins: Influenza A and SARS CoV2

As we go through another year of global pandemic, the high toll of viral diseases demands development of reliable diagnostics and therapeutics. I will discuss a phage-display based platform for fast track discovery of antibodies for diagnostics and antiviral therapeutics. Neutralizing and detection antibodies are usually developed against viral envelop proteins. Viral envelop proteins are membrane embedded proteins with an external, transmembrane, and cytoplasmic domains. Antibodies that target external envelop domains facilitate virus diagnostics and may work as potent therapeutics, while antibodies that bind cytoplasmic domain could facilitate host-pathogen interaction studies. We have applied phage displayed scFv libraries with $>10^{11}$ diversity to select specific antibodies against various targets such as whole bacteria, virus, and proteins, or epitopes representing protein domains, peptides, and post-translational modifications. We have combined selection from these large phage libraries with yeast display supported by flow cytometry sorting to identify highly specific antibodies. With the phage and yeast display technology, we have developed antibodies specific to matrix II (M2) protein of Influenza virus and spike protein of SARS CoV2. We applied peptide-based selection and screening to optimize two antibodies (Z3 and h14C2) targeting the external domain of M2 and E.coli expressed protein domain of the M2 protein was used to isolate antibody that target the cytoplasmic domain of this viral protein. We used the receptor binding domain (RBD) of the Spike protein as antigen in our quest for COVID-19 antibodies. In this talk, I will focus on scFv antibody selection and sorting techniques used (e.g., competitive selection, subtractive sorting, drop assay for specificity) as well as characterization techniques utilized for antibody verification. I will also discuss the challenges encountered during antibody development and the techniques we used to overcome the experimental pitfalls.

Suzan Yesil

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The Role of Parental Involvement in COVID-19 Pandemic Trauma Recovery in Undergraduate University Student

This study will explore university students' perceptions of 1) university students' COVID-19 trauma experiences, and 2) the effect of parental involvement in university students' pandemic-related trauma recovery. The study will employ a qualitative case study research approach and focus groups to collect and analyze data thematically. The study population will be undergraduate students in a university campus in Texas. The study will contribute to theory and advocacy on the importance of involving parents to support university students who have experienced trauma and address mental health-related systemic deficiencies that affect students' educational experiences and exacerbate inequities in America's higher learning institutions.

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