



ALMA MATER
EUROPAEA
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IT'S ABOUT PEOPLE 2025: SOCIAL AND TECHNOLOGICAL RESILIENCE FOR HEALTH AND SUSTAINABLE DEVELOPMENT

*The 13th Annual Conference of Europe's Sciences
and Arts Leaders and Scholars*

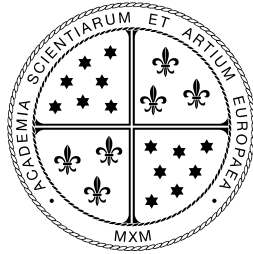


BOOK OF ABSTRACTS

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The 13th Annual Conference of Europe's Sciences and Arts Leaders and Scholars

**IT'S ABOUT PEOPLE 2025:
Social and Technological Resilience
for Health and Sustainable Development**

organised by Alma Mater Europaea University, European Academy of Sciences
and Arts and World Academy of Art and Science

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Maribor, 14–19 March 2025

**The 13th Annual Conference of Europe's Sciences and Arts Leaders and Scholars
It's About People 2025: Social and Technological Resilience for Health and Sustainable Development
Book of Abstracts**

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INVITED TALKS: PLENARY

WELCOME ADDRESSES

Ludvik Toplak, Emeritus Professor, Rector
Alma Mater Europaea University

Dear guests, esteemed colleagues, and friends.

It is my great pleasure to welcome you to the international conference "It's About People: Social and Technological Resilience for Health and Sustainable Development." This topic reflects our shared commitment to addressing the key challenges of our time – strengthening the resilience of society and technology for a healthier and more sustainable future, with a particular focus on artificial intelligence.

In a rapidly changing world, resilience has become essential. Recent events have shown us how closely health, technology, and sustainable development are interconnected. Especially in these turbulent times, when faced with dark clouds, the call for peace is the first task for everyone, including the academic community, policymakers, the economy, media, and opinion and religious leaders. It is our duty to respond and adapt for the individual's benefit, particularly to involve students in actively addressing these issues. This is crucial for the development of communities and society as a whole.



Ludvik Toplak

Photo: Marko Pigac

The Alma Mater conference brings together experts from various fields – researchers, professionals, decision-makers, and representatives from the economy – to exchange knowledge, ideas, and solutions. As you can see, the conference follows the principles of the European Academy of Sciences and Arts: interdisciplinarity, transnationality, and building bridges, as well as the call of the World Academy of Art and Science and for education for peace.

Through collaboration, we can bridge the gap between technology and social well-being and ensure that technological advancement sustainably serves humanity. The conference will also pay special attention to the implementation of the *Global Peace Offensive*, signed by the presidents of both leading academies, Klaus Mainzer and Garry Jacobs, at the inauguration of the Alma Mater Europaea University in October 2024.

I invite you to participate actively in the discussions, share your insights, and build new partnerships. Let us use this opportunity to inspire and collectively shape the path toward a more resilient future. This is our call to action.

On behalf of the organizing committee, I would like to express my gratitude to all the participants and speakers and request that you share your ideas and vision for the 14th Alma Mater It's About People conference, which is expected to take place during the second weekend of March 2026.

Finally, I would like to once again extend a warm welcome to all of you. I wish you a successful and inspiring conference.



From left to right: Donato Kiniger-Passigli, Ferenc Mislivetz, Felix Unger, Ludvik Toplak, Klaus Mainzer, Barbara Toplak Perović and Damir Boras.
Photo: Marko Pigac

SIGNING OF THE GLOBAL PEACE OFFENSIVE JOINT STATEMENT



World Academy of
Art and Science



EUROPEAN ACADEMY
of Sciences and Arts

At a joint meeting of the leadership of the World Academy of Art and Science (WAAS) and the European Academy of Sciences and Arts (EASA) on 21 October 2024 in Maribor, realising the dangers of current wars and recognising the urgency of the moment, we crafted a

Vision for a Global Peace Offensive

The world today faces a series of interconnected crises growing in number, intensity, and complexity, outpacing the ability of traditional diplomacy to manage and resolve them. This initiative seeks to mobilise research, art, media, opinion makers, religious leaders, educational and civil society institutions to identify practical measures to reverse the direction and reduce the intensity of confrontation by a global peace offensive focusing on incremental, reciprocal steps for conflict resolution, emphasising cultural, scientific, economic, educational and environmental diplomacy as well as political, economic and media systems which have real power and also responsibility in the proportion of their power.

Responsibility of Scientists and Artists

Information, scientific knowledge, technological innovation and the arts play a central role in education and social evolution. Scientists and artists are uniquely responsible for fostering global peace and human coexistence. Through creative expression and the ability to move hearts and minds, artists shape the narratives that define cultures and influence public sentiment. This responsibility has become more significant than ever in the contemporary world, given the increasing power and impact of global digital communications and intelligent machines, large language models and other artificial intelligence (AI) applications.

Based on our unique responsibility, we will work towards trust-building initiatives, assessing the needs and claims of all parties in any given conflict, imparting a voice to all stakeholders, and reinforcing promising international cultural exchanges and collaboration.

Our Commitment

To end wars, we shall harness the powers of all fields of education, research and technological advancement to promote peaceful coexistence and human security for all via quiet diplomacy and public events to promote peace on local, regional, and global scales.

Innovative educational models, combining AI and the mobilisation of social networks, can significantly impact political decisions and international peace dynamics. We shall work towards identifying, creating, and projecting peacebuilding opportunities, facilitating dialogue between conflicting parties, and improving decision-making, analysis, and narratives through developing innovative strategies for conflict resolution. We shall consider ways to expand our activities on a multiregional scale and attract human, financial and other resources to our mission.

We hereby invite the academic community, intellectuals and global leaders to support this vision, individually and institutionally, by implementing innovative educational and research activities for peace so we join forces to build a bright, secure and peaceful future for all. Both academies will follow up on the initiatives and proposals for a peace offensive and implement them in our further activities.

Klaus Mainzer, President
European Academy of Sciences and Arts

Garry Jacobs, President
World Academy of Art and Science

The President of the European Academy of Sciences and Arts (EASA), Klaus Mainzer, and the President of the World Academy of Art and Science (WAAS), Garry Jacobs, signed the Vision for a Global Peace Offensive at a meeting in Maribor on 21 October 2024, acknowledging the dangers of current war situations and the urgency to act responsibly by the academic community, intellectuals and global leaders.



Maribor, 14 March 2025

WAAS-EASA Joint Statement The Global Peace Offensive: A Call for Action

In furtherance to the Global Peace Offensive vision, adopted by the World Academy of Art and Science (WAAS) and European Academy of Sciences and Arts (EASA), the two largest academic networks, on 21 October 2024 in Maribor, we are now, at the It's About People conference, organized jointly by Alma Mater Europaea University (AMEU), EASA and WAAS, issuing a **JOINT STATEMENT**, reinstating our commitment to the implementation of the Global Peace Offensive.

The Global Peace Offensive is a proactive, dialogue-driven peacebuilding approach within civil society, spearheaded by the academic community. The current climate of heightened political polarization and violence, coupled with a disregard for universal human dignity and moral principles in international relations, necessitates innovative strategies for conflict prevention and resolution. Strategies which the academic community is uniquely positioned to lead.

The Global Peace Offensive is anchored in a three-pronged strategy that includes:

- 1. Strategic de-escalation:** Localized initiatives using cultural, scientific, economic, educational, and environmental diplomacy, engaging political, economic, and media systems. The focus is on incremental progress toward sustainable, issue-specific solutions.
- 2. Trust-building:** Assessing the needs and claims of all parties, prioritizing stakeholder voices and promoting cultural exchange and partnerships for lasting peace. The goal is enhanced cooperation for human security and Sustainable Development Goals achievement.
- 3. Enhanced dialogue:** Iterative processes with a cumulative effect for lasting peace through cultural, scientific, and educational diplomacy, supported by traditional diplomatic channels, parliamentary diplomacy, and peace education. Through this track of activities innovative educational programs that harness the potential of artificial intelligence, and the reach of social networks will impact political decisions and the trajectory of peace.

The academic community has the responsibility to leverage technological innovations, identify trends, anticipate change, contribute to conflict prevention and peace education. A coalition of civil society networks supporting local peace processes through cultural and scientific quiet diplomacy is essential for realizing this vision.

The time for a concerted, knowledge-driven peace effort is now.


Donato Kiniger Passigli
Vice-President WAAS


Ludvik Toplak
Rector AMEU


Klaus Mainzer
President EASA

World Academy of Art and Science, Alma Mater Europaea University and European Academy of Sciences and Arts reaffirmed their commitment to the Global Peace Offensive, adopted on 21 October 2024, in Maribor by signing a joint statement during the plenary session of the conference It's About People 2025 on the importance of the academic community's active role in peace dialogue.



Klaus Mainzer, Ludvik Toplak and Donato Kiniger-Passigli signed the statement during the It's About People 2025 conference. The Global Peace Offensive strategy is based on three key pillars: Strategic De-escalation, Building Trust, and Enhanced Dialogue.
Photo: Marko Pigac

Felix Unger, University Professor
Honorary President, European Academy of Sciences and Arts

Good morning, ladies and gentlemen.

It is really fun to inaugurate the conference It's About People. I think the topic is very well chosen, especially at a time when peace seems less close than in those days.

What we have seen and what we all envision are enormous struggles. I have to mention only the Ukraine problem, I have to mention other burning items on the whole world. We are speaking a lot about peace. Moreover, when we are speaking about peace, this indicates that peace is far away. However, therefore, our academies have all to do to get bridges toward an understanding, with tolerance and so on, and with bridging, we should get a basis for a common understanding and for a common, new pathways of creating peace.

Yesterday evening, we had a very good discussion with people from Germany, and we confessed that this could be done only or mainly by motivating the youth. The youth is our future. The youth are capable of finding new ways of understanding, and they are very emotional and energetic in driving this.

Ladies and gentlemen, meetings like this, like with Professor Toplak, have been going on for so many years, and it is always a burning issue to get things running in this way. I am very pleased about the whole programme. When I looked through it, I saw that that was all a man needed. It has different facets and different points where we could work on it. And I like that the youth in your programme is very deeply involved. This is a sign that you are reaching out to our future because we cannot do anything without youth.

But ladies and gentlemen, when I look at the whole programme, it's fascinating that you have 60 different workshops and that you have so many people from all over Europe, from the centre of Europe, a little bit East, a little bit West, a little bit North, a little bit South, and this keeps the right combination to speak on this topic in different ways.

Ladies and gentlemen, it gives me great pleasure to stand here, and I will also congratulate Professor Toplak on Alma Mater Maribor's becoming a full university. This is a great achievement of Professor Toplak, and we have to congratulate you.

Creating a university is not so easy, as it is like buying something in a shop. So, you have so many enemies and so many people against this project on the ground; therefore, it is so good and fantastic how you could overcome all these hurdles so that a university stands. I think that in Slovenia it is a great contribution to the entire university landscape to have, among other goals, a private university, congratulations. Moreover, I can say that the Alma Mater Maribor has developed into a university that lives up to the saying „have your future in your heart“.

Ladies and gentlemen, after congratulations, let us go to work. The topic is very interesting, and many facets have to be covered, and it belongs to every individual to learn things. One concern that I have is concerning peace. There are so many attempts at peace, so many people and groups saying something to peace, but overall, we need an intensive discussion on how to come to peace. And one thing is tolerance. So tolerance is an endeavour to understand and be a part of love.

Ladies and gentlemen, we are here in Maribor. Maribor also has a very well-known history, and Professor Toplak was building up on this history. Moreover, I can only say: *Ad multos annos!* Congratulation!



Felix Unger

Photo: Marko Pigac

THE IMPACT OF AI ON SOCIAL AND TECHNOLOGICAL RESILIENCE FOR HEALTH AND SUSTAINABLE DEVELOPMENT

Klaus Mainzer, University Professor
President, European Academy of Sciences and Arts

For many decades, I have been working on the (mathematical) foundations of complex dynamical systems, which are used as models for self-organization in nature and society. Computer simulation and AI open up new possibilities for simulation and prediction for early warning systems of critical and chaotic developments. Modelling self-regulation must prove itself as a service for resilience and sustainability in nature and society. This is particularly evident in the example of a sustainable circular economy and health system. The talk also relates to new upcoming academic courses at the Alma Mater in Maribor on complex systems with AI-supported applications in health systems and psychotherapy. Finally, the peace initiative of the World Academy of Arts and Science (WAAS), together with the European Academy of Sciences and Arts (EASA), aims at a resilient world system in balance and equilibrium.



Klaus Mainzer

Photo: Marko Pigac

GLOBAL PEACE OFFENSIVE

Donato Kiniger-Passigli, Vice-President
World Academy of Art and Science



Donato Kiniger-Passigli

Photo: Marko Pigac

Esteemed colleagues, Professor Mainzer and Professor Toplak, respected members of the academic community.

This is a call for action. We stand at a critical juncture in our shared history. This present climate necessitates not only the revaluation of our strategies for conflict prevention and resolution but also underscores the unique positioning of the academic community to lead in this essential endeavour. The urgency of this call is amplified by the scale of the current global crisis. Millions of refugees are displaced and need assistance, and international organisations are deputed to deliver much-needed humanitarian aid and healthcare. The multilateral system and the international community are clearly paralysed, and the most powerful ignore human rights principles.

In a diffused power landscape, global diplomacy increasingly relies on these diverse actors shaping international relations and policy. We are entering uncharted waters, and the international system is very fragmented. The escalating geopolitical tensions point to a systemic failure of existing peace-making and peacebuilding mechanisms and the critical need for innovative solutions based on human relations and the power of the people.

Certain things can be done only by governments, such as negotiating binding agreements. But there are other things that only citizens can do: change human relations. Harold Saunders's observations underscore the pivotal role of societal dynamics in achieving nonviolent conflict resolution and fostering positive peace.

The inherent connection between human security in all its multifaceted dimensions and core societal values is undeniable. The term human security is a product of a correlation between humans, on one hand, meaning individuals or people, and security, on the other, meaning basic needs, op-

portunities, health and equity. Today's global conflict landscape is increasingly complex, shaped by non-governmental organisations, multinational private, military and security companies and even terrorist organisations active in all fields, including our ecosystem and cyberspace. Their influence complicates the strategic environment, demanding a comprehensive analysis and tailored conflict resolution strategies.

The current multipolar world features power centres beyond traditional states. Corporations and oligarchs, including tech giants, are challenging established geopolitical strategies and bringing traditional peacebuilding approaches, often relying on oversimplified societal views as insufficient. Sustainable peace requires collective efforts. Peace must be cultivated organically, focusing on societal context and avoiding the delusion that external interventions firefighter brigades. The inadequacy of current approaches stems partly from the perils of misperceptions that constantly undermine peace efforts. Misunderstandings about the intentions and perceptions of reality frequently lead to serious errors, especially among opponents with different cultural values.

Presently, the existing geopolitical landscape is fraught with tensions and now even a looming trade war. The current crisis, born from tensions simmering for over two decades, underlines the inadequacies of traditional political approaches to sustaining peace, exacerbated by political polarisation; recognising that each party's perception creates distinct realities is essential. Failing to account for these different perspectives leads to misjudging the strategic environment and results in misguided efforts. A deep understanding of local, national, and international context is essential for peacebuilding. Often bound up with inequalities, grievances, intergroup tensions, ethnic disparities, and poverty, addressing these issues demands rigorous economic research and informed dialogue among all stakeholders. With this understanding, I want to turn your attention to the central focus of my presentation, the new *Global Peace offensive*.

Less than a year ago, we revisited the original peace offensive of the 1960s devised by Charles Os-good that inspired the major breakthroughs of Kennedy during the Cuban Missile Crisis and, much later, the Camp David Accords brokered by President Carter. A proposal to the General Assembly of the World Academy of Art and Science was presented. Subsequently, the *Global Peace Offensive* principles were adopted, paving the way for a renewed commitment to peace. Later, the initiative was endorsed by the Black Sea University Network at the Director's level, and last October, thanks to Professor Toplak, the European Academy of Science and Arts and the World Academy of Art and Science issued a joint vision statement to support the *Global Peace Offensive*. The very influential Club of Rome also devised a common agenda. In the meantime, the proposal was presented at the Geneva Science and Diplomacy Anticipator Summit, with very interesting prospects for joint collaboration and the Global Peace Education Network in Paris.

The *Global Peace Offensive* is intrinsically a proactive methodology, fostering dialogue and promoting peace within civil society. Scholars and researchers will lead this effort to leverage technological innovations, identify emerging trends, and anticipate developments influencing conflict dynamics. The approach is crucial for developing effective conflict prevention strategies and promoting peace education. The initiative intends to promote cross-cultural understanding, particularly among younger generations strongly, to cultivate peaceful coexistence, a crucial step towards lasting peace. We aim to identify, create, and project peacebuilding opportunities, facilitate dialogue among conflicting parties, and improve analysis, decision-making, and narratives through innovative conflict resolution strategies. Furthermore, central to the peace offensive is the understanding that sustainable peace cannot be imposed from the outside. However, it arises from within communities taking ownership of the peace process.

Ultimately, solutions not truly shared by local communities will not likely be taken up and succeed. Therefore, we are committed to developing and implementing innovative educational programmes and utilising artificial intelligence's potential to provide communities with the tools and knowledge they need to pursue and define their vision of peace actively. Artificial intelligence can enhance dialogue and help predict and divert crises through analysis and trends through collaborative interventions.

Developed as a collaboration between the World Academy and the European Academy of Sciences and Arts, our *Global Peace Offensive* embarks on a three-pronged, three-pillar strategy designed to deliver sustainable solutions.

The first one is **localised strategic de-escalation**. This is confidence building at the grassroots level through people-to-people initiatives and the problem-solving approach. We advocate for localised initiatives that employ cultural, scientific, economic, educational and environmental diplomacy. The academic community is well positioned to investigate and understand where the drivers of peace at the local community level are, which are the spoilers and inhibitors of peace, and what elements encourage local consent and legitimacy according to local and international norms. Local identities, traditions, and religions are all factors that determine positive peace.

The second level is **ownership and trust building**. Essential to lasting peace is prioritising the voices of all stakeholders, assessing their needs, and promoting cultural exchanges. We can enhance co-operation towards achieving human security and sustainable development goals through collaborative partnerships. This entails bottom-up rather than merely top-down empowerment. It is more than just the participation of local institutions in socio-economic actors. The measured level can generate mutual support and the ability to transform reality. Forging relations through businesses, trade, and the arts belong here, just like in the novel *Marco Polo*, we need to give new impetus to discoveries that bring people together.

The third level is **enhanced dialogue** using diplomacy, education and technology, including artificial intelligence, to influence political decisions and peace efforts. Innovation plays a critical role in long-term solutions. Achieving lasting peace necessitates iterative dialogue processes employing diverse diplomatic approaches, cultural, scientific, educational, and traditional ones that will pursue incremental, sustainable solutions by engaging political, economic, and media systems that address the root causes of conflict. Artificial intelligence and social networks will enhance educational programmes, inform policy, and promote peace discourse while carefully considering ethical implications and technological limitations.

This is the area of peace-centred education. These three pillars, or parallel tracks, correspond to three baskets of activities that can occur simultaneously or at different intervals according to the specific context in which we operate. Our initiative enhances hybrid peace processes by combining traditional methods with public dialogue, innovative technology and science diplomacy to foster local consent and adhere to international standards.

The piece offensive paradigm has the potential to help strengthen confidence by prioritising prevention and supporting ongoing peacebuilding interventions. Cultural and system diplomacy bring significant benefits to our global community, especially through peace-centred education. The academic role is crucial in promoting mutual respect for diverse perspectives and scientific expertise and public outreach to educate communities on the values of international cooperation and multilateralism.

Engaging the public effectively helps to demystify scientific concepts and garner support. Additionally, cultural exchanges promote understanding and support research capacities in all countries, fostering global opportunities for shared knowledge and collaborative solutions to global challenges.

In conclusion, the *Global Peace Offensive* represents an urgent, innovative framework to sustain peace. Its emphasis on grassroots engagement, trust building, and enhanced dialogue positions the academic community as a pivotal contributor to these efforts, filling a void at the international level.

In our call to the academic community, the World Academy of Art and Science and the European Academy of Sciences and Arts urge scholars, researchers and practitioners alike to join forces in this research, development and implementation of the initiative. As we try to bring opposing sides together, direct talks are always the preferable format to advance peace. Our role will primarily serve as facilitators, commoners, or active observers in this process. A coalition of civil society networks supporting local peace processes through cultural and scientific quiet diplomacy is essential for realising this vision.

The time for a concerted, knowledge-driven peace effort is now.

PLENARY SESSION 01

HOW DO WE TACKLE EUROPEAN SOCIAL AND TECHNOLOGICAL CHALLENGES WITH SCIENCE IN PARTNERSHIP WITH JOŽEF STEFAN INSTITUTE AND JOŽEF STEFAN INTERNATIONAL POSTGRADUATE SCHOOL

Aleksander Zidanšek, Professor, Researcher
Vice Dean, Jožef Stefan International Postgraduate School
University of Maribor, Slovenia
Jožef Stefan Institute, Slovenia

How we tackle European social and technological challenges with science was discussed with Professors from the Jožef Stefan Institute and the Jožef Stefan International Postgraduate School.

Jožef Stefan has risen from a bright Corinthian teenager to one of the world's leading physicists, combining art and science, poetry and physics. Stefan's law of black body radiation, published in 1879 and later theoretically explained by his student Ludwig Boltzmann, was the culmination of his scientific work and an important step toward developing quantum physics by Max Planck in 1900.

In the same spirit, Jožef Stefan Institute was established in 1949 and Jožef Stefan International Postgraduate School in 2004, with a mission to accumulate and disseminate knowledge at the frontiers of natural science and technology to benefit society. Researchers at the forefront of physics, artificial intelligence and computer science, environmental science and technology, materials science, nanotechnologies and related disciplines develop new knowledge and solutions that can make our lives better and kinder both to the environment and to people. Some interesting topics, challenges, ideas and opportunities related to this research are outlined below.



From left to right: David Kocman, Uroš Cvelbar, Sašo Džeroski, Milena Horvat and Aleksander Zidanšek opened the first plenary session.
Photo: Marko Pigac

THE SILENT EXPOSURE DILEMMA

Milena Horvat, Professor, Head of Department of Environmental Sciences, Jožef Stefan Institute, Professor and Dean, Jožef Stefan International Postgraduate School

This presentation explores one of the most urgent but often invisible environmental and public health issues of our time: long-term, low-level exposure to harmful chemicals. Unlike major pollution events that spark immediate concern, the effects of substances like PFAS, microplastics, pharmaceuticals, and industrial residues accumulate slowly—often silently—in our environment and our bodies. These exposures rarely cause alarm in the short term, but over time, they contribute to serious, sometimes irreversible, health and ecological consequences.

Today's regulatory systems are not designed to keep pace with the introduction of new chemicals. Too often, a substance is widely used before its risks are fully understood. By the time action is taken, it may already be present in our air, water, soil, food, and even in the human bloodstream. Monitoring efforts remain fragmented and underfunded, and the effects of combined exposures—where multiple chemicals interact—are still poorly understood.

The presentation highlights the need for a fundamental shift in approaching chemical safety and environmental protection. Rather than responding only after harm has been demonstrated, we need to apply the precautionary principle much earlier. New tools such as high-resolution mass spectrometry, passive sampling technologies, and AI-based toxicology models make detecting and predicting risks increasingly possible before they become widespread problems.

However, scientific solutions alone are not enough. Policy needs to be more responsive, industry more accountable, and global cooperation stronger. There is also an opportunity to involve the public more directly—through citizen science and the use of affordable sensors—to democratize environmental monitoring. Ensuring that all regions have access to reliable exposure data regardless of economic capacity is essential to achieving environmental justice.

Looking ahead, we can expect more personalized and real-time exposure tracking, better links between environmental data and health outcomes, and a stronger push toward green chemistry and safer alternatives. The science and technology to address the silent exposure dilemma already exist—the real question is whether we will act in time to make a meaningful difference.

FOOD – CHALLENGES AND INNOVATIONS

Nives Ogrinc, Professor, Head of the Biogeochemistry Group, Jožef Stefan Institute
Jožef Stefan International Postgraduate School, Slovenia

Food security is increasingly under threat due to climate change, soil degradation, water scarcity, and inefficient food distribution. At the same time, food waste remains a critical issue, with millions of tons discarded annually, while the rise of ultra-processed foods contributes to global health problems such as obesity and malnutrition. Addressing these challenges requires innovative, science-driven solutions that improve sustainability, enhance food quality, and reduce environmental impact. One key solution is precision agriculture, which integrates artificial intelligence (AI), Internet of Things (IoT) sensors, and satellite data to optimize farming practices, reducing water usage and minimizing pesticide dependence. Emerging technologies like cold plasma treatment offer promising alternatives by sterilizing surfaces and promoting plant growth without harmful chemicals.

Additionally, wastewater reuse in agriculture has been shown to be a viable and safe solution for sustainable irrigation, improving water efficiency while maintaining crop quality. Alternative protein sources, including plant-based, lab-grown, and insect-based proteins, present another promising avenue to reduce the environmental impact of traditional meat production. However, consumer acceptance remains challenging, as familiarity and health concerns influence food choices more than sustainability alone. Similarly, circular food systems can help minimize food waste through composting, upcycling, and food redistribution. Innovations in bio-based packaging and blockchain food traceability further enhance sustainability by extending shelf life, reducing waste, and improving food production and supply chain transparency.

Looking ahead, the next five to ten years will see significant advances in biotechnology, with gene editing tools improving crop resilience, nutritional content, and sustainability in food production. Smart food systems incorporating AI, big data, and blockchain will enhance real-time food tracking, ensuring greater safety and transparency. The fight against food waste will also intensify, with upcycling technologies converting waste into bioenergy and new food ingredients. Personalized nutrition will continue to evolve, leveraging data analytics and microbiome research to develop tailored diets that improve health outcomes. Despite these advancements, challenges such as high costs, accessibility barriers, regulatory hurdles, and consumer scepticism must be addressed. By fostering collaboration across research, industry, and policy sectors, we can build resilient food systems that benefit both people and the planet.

CITIZEN SCIENCE IN ENVIRONMENTAL HEALTH

David Kocman, Head of the Environmental Informatics Research Group, Jožef Stefan Institute, Associate Professor, Jožef Stefan International Postgraduate School

This presentation discusses Citizen Science (CS), which is becoming increasingly important in environmental and health research by involving people in data collection and research activities. In these projects, citizens are not just data gatherers but are actively engaged throughout the entire research process – from defining the problem to interpreting and sharing results. Despite its promise, there are challenges, particularly when it comes to integrating research findings into political decision-making. People are eager to participate, and researchers are more open to these approaches. However, there are still no proper mechanisms to ensure that the results lead to concrete actions, such as improving air quality. Additionally, ongoing issues include ensuring data quality, motivating people to stay engaged over time, and overcoming barriers to include marginalized groups.

However, citizen science has significant potential to address larger societal challenges. It proves especially valuable when large amounts of data need to be collected, local knowledge is essential for identifying and solving problems, or innovative thinking is required that artificial intelligence cannot always replace. A great example is the participation of citizens in the game Fold.it, which helped make important breakthroughs in protein science, contributing to a Nobel Prize in chemistry. This collaboration between human problem-solving and computational power highlights how crucial CS can be in driving scientific breakthroughs, especially in fields like climate change and health. Active participation in research also helps people better understand the scientific process and uncertainties, which in turn builds trust in science.

Looking ahead, citizen science is expected to become more mainstream and integrated into official monitoring systems adopted by policymakers. Artificial intelligence will play an even bigger role in automating data validation and analysis. Communities will have greater control over their environment, fostering more sustainable practices. As collaboration between regional and global CS initiatives increases, citizen science will continue to grow, allowing people to actively contribute to scientific research and the decisions that shape their lives.

NANOTECHNOLOGY AND SOCIETY: CHALLENGES, SOLUTIONS, AND THE ROAD AHEAD

Uroš Cvelbar, Head of Department for Gaseous Electronics, Jožef Stefan Institute, Professor, Jožef Stefan International Postgraduate School

Nanotechnology holds immense promise across sectors, yet it faces significant hurdles that must be addressed before its full potential can be realized. These include safety and ethical concerns, as the long-term impact of nanoparticles on health and the environment remains uncertain. The lack of unified regulatory frameworks, particularly in Europe, contributes to public scepticism and slows adoption. High costs and scalability challenges further complicate commercialization, while the interdisciplinary nature of nanotechnology creates knowledge gaps that hinder collaboration and workforce development. Moreover, public perception remains fragile, with misinformation and fear often delaying the acceptance of nanotechnology-driven innovations in medicine, food, and consumer products.

Despite these challenges, nanotechnology already offers transformative solutions to some of the most pressing societal issues. It enables personalized treatments, real-time disease monitoring, nano-biosensors, and targeted drug delivery in healthcare. Environmental sustainability benefits from nanotech's role in improving energy harvesting and storage efficiency, purifying water, and reducing industrial emissions. In agriculture, smart packaging and pesticide-free crop protection are revolutionizing food systems. Nanomaterials also reshape the construction, aerospace, and transportation industries with self-healing and ultra-lightweight materials. Furthermore, nanotechnology is essential to enabling future innovations like advanced AI systems and quantum computing, cementing its role as a critical driver of green and digital transitions.

Looking ahead, in the next 5 to 10 years, nanotechnology will become increasingly embedded in daily life. The energy sector will benefit from breakthroughs in nanomaterial-based energy and hydrogen storage, while electronics will evolve through nanoscale semiconductors and AI-accelerated material discovery. Sustainable, biodegradable nanomaterials will support environmental goals, and nano-bioelectronics could enable new forms of human-computer interaction. However, realizing these advances requires innovation, global regulatory alignment, transparent public communication, and investment in education and ethical governance. If these are achieved, Europe is well-positioned to lead in the responsible advancement of nanotechnology, harnessing it as a catalyst for societal progress and resilience.

PLENARY SESSION 02

SECURITY AND HEALTH OF PEOPLE OF EUROPE TODAY AND IN THE NEAR FUTURE



From left to right: Moderator Igor Evgen Bergant, Ferenc Miszlivets, Klaus Mainzer, Donato Kiniger-Passigli, Andrei Marga and Veronika Stabej.
Photo: Marko Pigac

Ferenc Miszlivets, Professor, University of Pannonia
Director of the Institute of Advance Studies Köszeg, Hungary

In today's world, there is insufficient cooperation across science, society, and politics. This lack of collaboration, combined with fragmentation, poses significant risks—risks that are increasingly close to becoming a reality. At the heart of the problem is a growing disconnect between rapid technological advancement and the political fragmentation inherent in nation-states. My central question is: Where has the spirit of civil society gone? We must confront the unknown unknowns, which is, without a doubt, a daunting challenge.

Change begins with people. When individuals are convinced that they must think, behave, and act differently, they will do so. However, this shift is not enough on its own—it must be institutionalized. The existing global order is disintegrating, and now is the time to radically rethink our approach—not through incremental reforms like treaties, but by creating something entirely new. We need to reinvent Europe, rethink the concept of universities, and embrace a citizen-science approach that fosters openness and shifts our focus.

What we need is a collective, transnational effort—an interconnected network of universities and civic society that can help shape the future. This represents an important first step towards establishing new communication channels that transcend borders. The dynamics of this transformation will not be the same as in the 1980s, as we now live in a world shaped by social media. However, as I have emphasized, change begins with people and culminates in institutions—and after a period, this, too, will require reinvention. This process is already underway, right here, right now.

Klaus Mainzer, University Professor
President, European Academy of Sciences and Arts

What is Europe's primary challenge today? Innovation. We are in intense competition with global powers such as the US, China, emerging India, and other centres, including South Africa. In this multi-polar world, Europe must remain competitive.

In 2015, the Chinese Academy of Sciences and Arts invited me to join a small group of experts focused on AI. During this meeting, we were presented with a booklet titled *The People's Republic AI Strategy 2050*, outlining China's long-term vision. This contrasts sharply with the weaknesses of our political systems, which often prioritize short-term re-election goals over strategic, long-term planning. Europe lacks such a forward-looking strategy.

Take AI, for example—consider the intense US-China competition in this field, with developments like Deepseek and ChatGPT. When OpenAI's stock plummeted due to recent advancements, it highlighted the opportunity for Europe to make a significant impact. To seize this opportunity, we must unite all relevant experts and forge a common innovation strategy that aligns with our ethical and legal values and the European way of life. We need a unified approach to economy, technology, and innovation. The military sector might provide a starting point for building such a strategy in Europe.

Our initiative, the *Global Peace Offensive*, embodies the spirit of this transformation. Scientists and artists should take the lead because they are uniquely positioned to think long-term, unlike politicians, who are often consumed by immediate concerns. Our prosperity is rooted in science and technology, and we must recognize the powerful role of scientists in shaping our future. Therefore, it is imperative that we move forward with a comprehensive strategy that integrates innovation, power, and science with our ethical and legal frameworks. Only then will Europe regain its appeal on the global stage.

Donato Kiniger Passigli, Vice-President
World Academy of Art and Science

It is essential that we preserve the human dimension, human values, and human rights in all aspects of our work and progress. What we need is a renewed focus on balancing creativity with a clear sense of European identity—something we risk losing. This erosion of identity stems from the misconception that technocracy alone drives the world. In reality, it is the human mind that shapes our future. We must recalibrate ourselves and reaffirm the principles of artificial and generative intelligence. While these advancements can support us, they can never replace the human intellect or the values we must uphold.

Culture lies at the heart of who we are. Reclaiming our traditions and values is crucial. Nurturing our soft skills, especially the ability to engage in dialogue, is equally important. Building relationships and bridges starts with effective communication, which requires a language that conveys ideas, emotions, respect, and understanding for others. These are the core values we must represent.

Institutions today have lost their sense of purpose and mission. It is time for a transformation led by individuals who bring genuine values to the table—people who are not simply occupying positions of power but know how to use their influence to serve the greater good. Institutions that focus only on employment or health are insufficient. They must evolve to represent the overall well-being of humanity—fostering health, wellness, and prosperity. We cannot allow welfare to be sacrificed for warfare. I am speaking of peace—true, lasting peace.

To build peace, we must first reclaim our sense of identity. This is what is currently missing, and we must urgently restore it. Europe and the world at large must embark on a renaissance that celebrates these ideals. We must take the lead in promoting this vision.

Remember your humanity and forget the rest!

PEACE IN TODAY'S EUROPE

Andrei Marga, Emeritus Professor
Babes-Bolyai University, Cluj-Napoca, Romania

One of the most dangerous enemies of security—security is the topic of our panel—is war. We live today in years of wars. After a long period of peace, Europe is again the terrain of war. There is even a danger of entering a new world war.

Against this background, allow me to approach the question of peace in today's Europe briefly. For all reasons, humanitarian, economic, and strategic, the restoration of peace is indispensable. But it is to be clarified from the outset what peace we are talking about. "Eternal peace" is utopian, and "compromise peace" does not solve much and only prepares other confrontations so that "lasting or enduring peace" is to be sought. It is more than "sustainable peace."

As we well know, the series of peace projects is long. Suffice it to recall that at the beginning of it lies an eternal peace project based on the republican character of states (Kant). But republics, even democratic ones, did not prove to be more peaceful than kingdoms. At the end of the line, there is the peace project based on the action of international organisations (Habermas). But they were exceeded by the strength of states and movements.

From these reference approaches, respect for national sovereignty, democratisation of states and international action remain keys to achieving peace. Peace today needs the will and good faith of the old and new actors in history and a new starting point. I have in mind the files that have remained unresolved due to the two wars and, of course, the subsequent changes. Let us circumscribe this starting point.

Some believe that only education would bring peace. The answer is handy – education is important, but it takes time. Others want arming and positions of strength for the war's outcome – which does not bring peace. In fact, a peace that does not change anything or only dresses up reality does not give results, and, with the prejudices that led to the current war, peace is excluded. It does not have enough historical basis and does not yield results to return to what it was until 2014, whatever one may say, because it is precisely that *status quo* that led to the conflict.

Certainly, getting out of the current propaganda is a prerequisite for peace. Every war in recent centuries has involved propaganda, but no propaganda has reached such a deep divorce from reality as today's propaganda.

It is clear that only if adventurous attitudes are abandoned can there be peace. There are already several realistic peace plans from Germany, China, and other nations, both official and unofficial. I have addressed them elsewhere, and what I have said about the conflict on various occasions has been confirmed. The plans are multiplying, with the expectation that peace will come soon.

In any case, peace in Europe, but as can already be seen, peace in other parts of the world, is nowadays under four general conditions. The first means taking control of the arms trade and resuming negotiations on advanced arms control. The second is to move away from the ideology of globalism and return to national sovereignty with a deep understanding of the advantages of international cooperation and interaction. The third consists in the internal democratisation of countries – not a democracy "controlled" by someone, but a democracy in which each person is respected in her/his convictions and aspirations, not a "selective" democracy subordinated to ideological considerations, but an integrative democracy, in other words, explicitly participatory, not the rather "mute" democracy of some countries of today. The fourth condition is the recognition of states according to the historical legacies established by the modern writing of history and the abandonment of terrorism.

Of course, most of us want a just peace regulated by „international law“ in Europe. But we are still far from clarifying and understanding it exactly. Many confuse it with the „right“ underpinned by one's own immediate interests. Therefore, until international law is settled, there is still a way to go, given that international law is much more than a formality – it is the law of treaties ratified by the representative parliaments of the states as subjects. Nothing can replace this mature understanding of international law.

In fact, in Europe, we are after numerous agreements, such as the Helsinki Agreement (1975), memoranda, such as the Budapest Memorandum (1994), or other agreements between states. It would be a mistake to diminish and trivialise the importance of all of them. The problem is in a completely different place.

Unlike what followed the First World War, when treaties were adopted, there was a lack of the necessary treaties after the Second World War. The Treaty of Paris (1947) was concluded, establishing peace after the war without sufficiently regulating the existing situation in the light of international law. That is why an eminent constitutionalist who became the president of a great country rightly mentioned that no one after the Second World War had a mandate from the parliament of his/her country to negotiate territories. Treaties concluded during the *détente* of the seventies (examples can be given) provided for mutual respect for borders until the expected "final settlement".

The emergence of the European Union has undoubtedly changed the situation in Europe. At one point, it relativised the issue of borders, putting forward the urgent issues of integration and development. But the European Union cannot dismiss the issue either.

The discussion about borders has not been avoidable for long – as is easily noticed; it is breaking out increasingly in many countries. It is not easy at all and should not be left to demagogues ready to manipulate citizens. Neither should it be left to the people who do the reverse demagoguery, preaching the inability to solve it.

There are criteria that can solve such an issue, which, of course, is not easy. One can resort to historical, legal, and demographic data and mature understandings. In any situation, good faith is indispensable for lasting peace.

One certainty is that the truth cannot be stopped, and the writing of the history of the Second World War will move forward.

Lasting peace can only be achieved in today's Europe by respecting a bundle of truths resulting from numerous historical experiences. I summarise them as closely as possible: a) The war cannot be won unequivocally, no matter how much it is fed and wherever the front is fed from; b) There is no peaceful alternative to a ceasefire on the existing lines; c) There is no peace without the cooperation of those involved in the conflict and their negotiation of the *status quo*. As Helmut Schmidt said, with the advantage of the *connoisseur*, we must not interfere in the relationship between the Russians and the Ukrainians – who have sixteen centuries of common history and culture and can find their own solutions; d) Peace presupposes a different attitude towards the other – one characterised by objectivity and concentration on arguments, not on interpretations. Everyone has the right to free thought and opinion, so any claim to a monopoly of truth is illusory. No one is the owner of freedom, democracy and other values. Among other things, the propagandistic stigmatisation of those who think for themselves and want peace only expresses the lack of arguments and the poverty of the mind. After all, everyone has the right to speak – Russians, Ukrainians, Germans, Poles, Americans and many more! My opinion is that it should be learned from the ethics of public discourse, with its conditions: intelligibility of speech, integrity of expression, factual truth and mutual respect; e) It is no longer possible to have one's security without the security of one's neighbour and it is not realistic to ask for guarantees from the other if one does not provide guarantees; f) National sovereignty further presupposes, according to the Westphalian peace, inviolable borders and non-interference in internal affairs. However, it does not mean fixation on territories that did not belong to you, nor on dogmas and aspirations unrelated to reality. Sovereignty presupposes creativity in the service of the common good – yours and that of the other; g) There is no punctual security and no solitary security, so a new European security treaty is indispensable; h) The liquidation of the consequences of the Second World War and the "Cold War" has never been completed, so that the Ribbentrop-Molotov pact has only been partially abolished. Today, it should be completely denounced.

The greatest Romanian novelist, Liviu Rebreanu, was right when he said that in foreign policy, creating trust is more important than fighting to exhaustion and maintaining themes to manipulate citizens. Today, as the Slovak Foreign Minister rightly said, any country in the current conflict in Europe could take advantage of development conditions by returning to peace.

PLENARY SESSION 03

NANOMEDICINE – AN OVERVIEW OF RECENT PROGRESS IN THE FIELD

Štefan Luby, Professor, Senior Research Fellow
Institute of Physics, Slovak Academy of Sciences

The progress of nanomedicine as one of the crucial fields of nanoscience and nanotechnology (N&N) is fascinating. In recent years, along with nanomaterials and nanoelectronics, nanomedicine has become the third pillar on which the development of N&N rests. Nanomedicine is connected with about 10 nanotechnology milestones, among which at least discoveries of Nobel rank, such as the double-helix structure of DNA (prize 1962) or the CRISPR-Cas9 laboratory tool for gene editing (prize 2020), should be emphasized. In addition, powerful inventions such as nanoparticle drug delivery (Trajan horse therapy) or electronic noses can be added to diagnose plenty of diseases. The number of books and scientific papers in the field of nanomedicine is growing exponentially, and the steepness of this growth is greater, as in the case of nanomaterials and nanoelectronics. Nanomedicine applies a wide range of metal-, oxide- and polymer-based materials, as well as nanomaterials from the carbon family, like graphene, carbon nanotubes, etc. The most frequent among them are spherical nanoparticles that could be arranged into regular arrays. In this lecture, we will focus on a broad family of antimicrobial nanoparticles and their applications, targeted drug delivery to the relevant organs and/or tumours, which came out of oncology and is gradually permeating many fields of medicine, and, finally, nanomaterials for the local hydrogen release and therapy of various diseases using this medical gas which is a strong antioxidant. However, the diagnosis of diseases from breath analysis or the future role of nanobots must be at least remembered here. Progress in nanomedicine must be balanced by attention paid to nanotoxicology. Results from our laboratory will supplement the review.

REASON, RESILIENCE AND THE AVOIDANCE OF DYSTOPIA

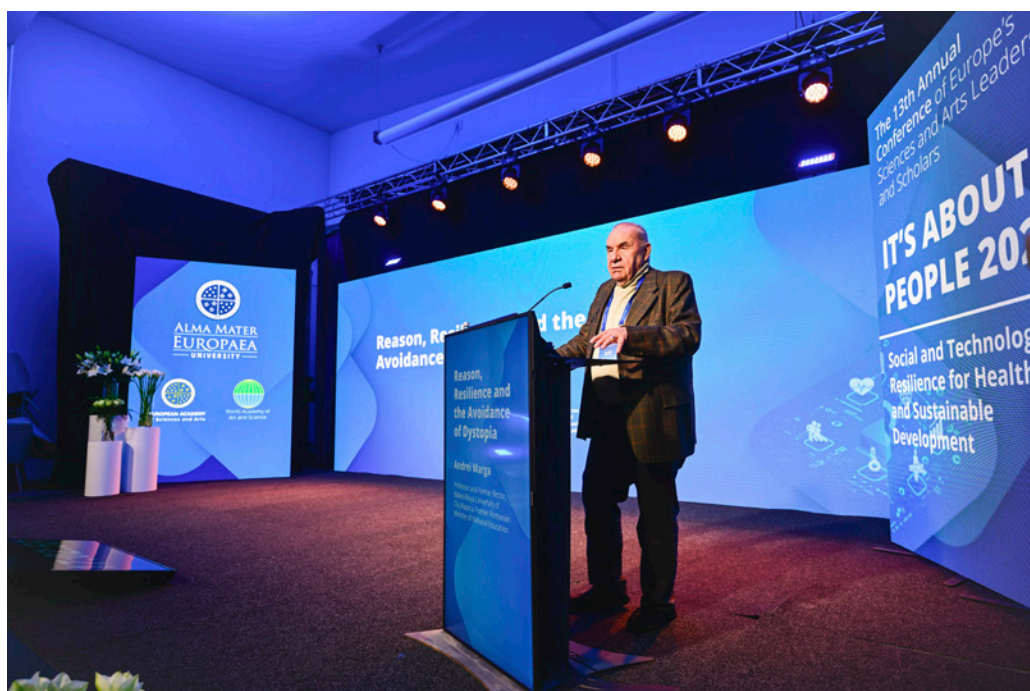
Andrei Marga, Professor and Former Rector, Babeş-Bolyai University of Cluj-Napoca
Former Romanian Minister of National Education

We live in societies resulting from modernization, in which reason is the guide, and resilience depends on reason. Reason („Vernunft“, „thinking“, „pensée“) is here more than a faculty of knowledge – along with sensitivity, intellect, intelligence, and imagination. It belongs, naturally, to the human mind, but it includes a vision of reality and a project for organizing human life. Reason is also the will to reason.

Regarding reason, we also learn from experience. One of the major lessons of the last two centuries is that reason cannot be reduced to a single way of being rational. I distinguish, through my own criteria, different rationalities – “instrumental”, “strategic”, “communicative”, “dramaturgic”, “reflexive”, and “in relation to the absolute”. There is no way to be on the side of reason he/she who does not understand the legitimate application of the types of rationality and does not connect them.

Dystopia – a situation in which people are abused by others – is the order of the day today. According to one interpretation, artificial intelligence – through cyberattacks, automated wars, artificially created pandemics, and the spread of authoritarianism – endangers nation-states and, through them, the world order and would lead in a „dystopian direction“.

However, dystopia does not only come from the uncontrolled expansion of artificial intelligence. It also comes from other directions: a) The democratization achieved from the eighties and nineties until today was possible based on international agreements. In recent years, however, “the world has split” with disastrous consequences; b) Reason presupposes a public sphere in which mature citizens, endowed with inalienable rights and freedoms, adopt decisions according to the best arguments. In the meantime, the “public sphere” has entered into decline under the blow of economic concentrations and the instrumentalization of the mass media; c) Nietzsche accused the expansion of mediocrity with the rise of modernization. Recent researchers report that developed societies are becoming “mediocratic” and are paying the costs of the decline in qualifications; d) In the nineties, there was widespread hope that anachronistic behaviours were left behind and that society would come that would encounter difficulties but would not repeat the old ones. However, “kleptocracy” intervened, among other things, even in countries that seemed immune; e) Integrity has melted into a commercialization of values, to the point that we have entered a “society of lies”; f) Sound reasoning is part of democracy, but, after modern reason made logic the standard of culture, many sophisms affect democracy today.



Andrei Marga

Photo: Marko Pigac

The world is not "flat", as was believed under globalization, nor "curved", as was replicated, but needs respect for individuality—personal, community, and national. This being the case, the optimal is to return from fragmentation, abdication, and compromise, which have filled the lives of today's societies, to reason that takes over reality as a whole.

The free mind remains the key to getting people out of crises. We live in a modern society in which the primary value is the person's freedom. However, the person depends on economic, institutional, and cultural conditions. So much so that "freedom of the person" only survives when coupled with the value of justice and equity. Today, it is clear that "democracy is not possible when there is no national sovereignty." It does not survive even in conditions of international confrontation. In society, values matter, and so does "the capacity to convert them into forms of life."

Civics, culture, and integrity normally ensure this capacity. Only by considering these benchmarks can we avoid a dystopian society.

PLENARY SESSION 04

THE SUSTAINABILITY OF ARTIFICIAL INTELLIGENCE

Alberto De Franceschi, Professor
University of Ferrara, KU Leuven

A sustainable AI governance shall ensure that AI tools and systems are ethical and safe. It shall establish the frameworks, rules and standards that direct AI research, development and application to ensure respect for human rights, safety and fairness. A harmonised legal framework will significantly promote the introduction and use of a socially, economically and environmentally sustainable AI in the interest of the present and future generations. AI is an important tool for boosting Sustainability. At the same time, legal instruments are needed to ensure the environmental Sustainability of AI. The lecture will consider these and further challenges and developments both at the EU and Global levels.



Alberto De Franceschi

Photo: Marko Pigac

WHAT IS A BLACK HOLE?

Sašo Grozdanov, Researcher at the Higgs Center, University of Edinburgh
Associate Professor, University of Ljubljana

Black holes are some of the most fascinating physical objects in our Universe. They describe regions of extreme gravity and are formed when stars die. At the same time, black holes are solutions to equations of gravity in vacuum (empty space), behave as thermodynamic objects, and contain the maximum amount of information that they scramble at a maximal rate. As a result, they are a prolific theoretical concept at the interface of gravity and quantum mechanics, helping us uncover new laws of physics. In the last decade, they have also become central to astrophysical observations owing to the fact that supermassive black holes are commonly found at the centres of galaxies. Their existence has been confirmed with the advances of gravitational wave detectors and radio wave astronomy. Very recently, the Event Horizon Telescope collaboration was, in fact, able to take a 'photo' of a black hole in the spectrum of radio waves. This groundbreaking image also opens up interdisciplinary connections between physics, photography, and art, offering new ways to visualize and interpret cosmic phenomena.



Sašo Grozdanov

Photo: Marko Pigac

EDUCATION AND MENTAL HEALTH

SCHOLARLY PANEL

THE PSYCHOLOGICAL-EDUCATIONAL ASPECT OF THE BIG FIVE PERSONALITY FACTORS

Sebastjan Kristovič, Professor
Alma Mater Europaea University, Slovenia

ABSTRACT

The Big Five personality factors (Openness to Experience, Conscientiousness, Extraversion, Agreeableness, and Neuroticism) represent fundamental dimensions of individual differences in personality traits. Research indicates that these factors significantly influence academic performance, social behavior, and mental health. The aim of this paper is to highlight the importance of these personality traits in the context of education and educational psychology.

A systematic review of existing empirical and theoretical sources in developmental and educational psychology, as well as personality research, was conducted. This analysis identified key connections between the Big Five personality factors and educational processes. The findings suggest that:

- 1. Openness to Experience fosters creativity, critical thinking, and innovative problem-solving among students.*
- 2. Conscientiousness is directly linked to academic success, as it influences self-discipline, organization, and perseverance.*
- 3. Extraversion contributes to better social interactions and cooperative learning.*
- 4. Agreeableness enhances interpersonal relationships and creates a positive educational climate.*
- 5. Neuroticism, if not properly regulated, can negatively affect mental health and academic achievement.*

The results confirm that the Big Five personality factors are closely related to education and psychological processes within learning environments. A holistic educational approach that integrates the development of these dimensions enables the formation of competent, emotionally stable, and socially responsible individuals. It is crucial for educational systems to actively promote personality development through pedagogical methods that support students' holistic growth. This principle is particularly emphasized in Logopedagogy, an innovative holistic educational approach based on the anthropological foundation of Frankl's logotherapy/existential analysis and the fundamental educational guidelines set forth by UNESCO and the European Commission.

For an effective educational practice, it is essential to recognize and encourage the development of the Big Five personality factors. Only through a holistic approach can individuals achieve their full potential and contribute to a more balanced and successful society in the long term.

Keywords: education, pedagogy, psychology, Big Five personality factors, logopedagogy.

EMPATHY AND VR TECHNOLOGY IN CONTEMPORARY EDUCATION: OPPORTUNITIES AND CHALLENGES

Tanja Valenta, PhD, Teaching Assistant

Urška Jeglič, Teaching Assistant, PhD

Katarina Kompan Erzar, Associate Professor

Urška Mali Kovačič, Teaching Assistant, PhD

Jonas Miklavčič, PhD, Teaching Assistant

Saša Poljak Lukek, Associate Professor

Barbara Simonič, Professor

University of Ljubljana, Faculty of Theology, Slovenia

ABSTRACT

Integrating empathy with learning content within the educational process enhances comprehension of topics while fostering emotional intelligence, social skills, and ethical reasoning in adolescents. Teachers can facilitate the creation of an inclusive and interactive learning environment by designing activities that enhance the capacity to comprehend the perspectives of others. In this context, it is useful to consider methods that facilitate the development and integration of empathy in the learning process. One such method is the use of VR technology, which allows students to experience challenges from the perspective of other individuals through the simulation of real-life situations, thereby directly promoting the development of empathy. While VR technology offers numerous advantages, it also presents certain challenges that must be considered when integrating it into the educational process. This presentation highlights these aspects, supported by the findings of a survey conducted on a sample of teachers and students in Slovenia as part of the VR4 Empathy project activities. The project's objective is to develop, test, and disseminate the informed use of VR to promote the development of cognitive empathy in the school environment, with the aim of enhancing the quality and inclusiveness of digital education at the EU level.

Keywords: empathy, virtual reality, learning process, adolescence.

MOBBING, EMOTION REGULATION IN THE CONTEXT OF ATTACHMENT AND EARLY RELATIONSHIPS WITH PARENTS

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ABSTRACT

Individuals experience the work environment in very different ways. At the workplace, they encounter various challenges and stressors that influence their psychological and emotional state. One of the potential stressors is the phenomenon of workplace bullying or mobbing. Mobbing involves repeated negative behaviors such as verbal abuse, social exclusion, and deliberate obstruction of work, which can harm an individual, their self-esteem, and psychological well-being. How individuals perceive and experience the work environment may also depend on past relational experiences (previous family dynamics) that are carried into the workplace. This paper focuses on examining the connection between mobbing, individuals' attachment styles in the workplace, their emotional regulation abilities, and early experiences through the lens of relational family therapy.

Keywords: mobbing/workplace bullying, early relationships with parents, relational family therapy, attachment, emotion regulation.

OUTCOME MONITORING AND MEASUREMENT-BASED PRACTICE IN COUPLE AND FAMILY THERAPY

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ABSTRACT

Routine Outcome Monitoring (ROM) and Measurement-Based Care (MBC) have been demonstrated to be effective tools for improving outcomes in individual, couple/marital and family therapy. By systematically collecting data on client progress, these methods can provide therapists with important structured feedback. Research indicates that they reduce the rate of deterioration and increase clinically meaningful change compared to the usual therapeutic process. This paper will present the findings of a pilot study that examined the effectiveness of Relational Family Therapy through different phases of the therapeutic process. Baseline, ongoing and endline measures were used to assess changes in relational dynamics, relationship satisfaction and psychosocial well-being.

Keywords: routine outcome monitoring, measurement-based care, relational family therapy, relationship satisfaction, psychosocial well-being.

CHALLENGES OF SAFETY AND PROTECTION OF CHILDREN AND THEIR FAMILIES IN THE DIGITAL ENVIRONMENT

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Slovenian Ministry of Labour, Family, Social Affairs and Equal Opportunities

ABSTRACT

This contribution highlights the challenges of ensuring the safety and protection of children and their families in the digital environment. The digital environment is an essential tool in the lives of children for education, socialization, and participation; however, its use can also expose them to risky behaviors. Children are a particularly vulnerable group, often lacking the experience and knowledge to assess the risks and consequences of entering the online world. To ensure the best possible protection and safety for them in the digital world, it is essential to raise awareness and train both children and their parents on the safe use of digital media. Due to the rise in screen usage, harmful effects on children's mental health have become evident. Increased exposure to screens and online activities is on the rise and is a cause for concern, especially for children's health and mental well-being, as it leads to increased stress, attention deficits, vision problems, lack of physical activity and exercise, as well as addiction. This article emphasizes the importance of free psychosocial programs that provide individual and group support to those addicted to digital devices, as well as their family members and are funded by the Ministry responsible for Family (MDDSZ).

Keywords: digital environment, children, family, intervention programs, addiction.

ADOLESCENTS ATTITUDES TOWARDS THEIR GENERAL HEALTH AND UNHEALTHY HABITS FROM THE MENTAL HEALTH PERSPECTIVE

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ABSTRACT

As part of the SUNRISE project, we conducted a survey among 5,074 adolescents (162 from Slovenia) aged 12 to 19 on their beliefs about their health. In an online survey, conducted with full consent, we asked adolescents questions about their general health, substance abuse (alcohol and smoking), (un)healthy diet and unhealthy food advertising. Slovenia is below average in terms of perception of their own health status - 7.5/10. Overall, 74% of respondents are satisfied with their health, but the percentage drops to 69% when compared to the power of their own health in their own hands, indicating less confidence in managing their health. The perception of health depends on several reasons, including the expectations people have about health/well-being. 26% of respondents felt that they had no control over important things in their lives and 30% felt overwhelmed by problems. Only 4% turn to teachers for help. Many young people who consume alcohol, illegal substances, and unhealthy diets are aware that all of the above can cause cancer, but this does not deter them from these actions. In a survey of attitudes towards the socio-economic conditions of individual countries, Slovenian adolescents rated life in the country at 6.7 out of 10 (average 6.3).

Keywords: mental health, well-being of adolescents, cancer prevention, unhealthy habits.

ADVANTAGES, DISADVANTAGES AND CHALLENGES OF CHATGPT4 IN THE TEACHING PROCESS

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ABSTRACT

The aim of this paper is to shed light on the problem faced by educational practitioners when using ChatGPT4 in the pedagogical process. Despite skepticism and resistance in pedagogical circles, it is necessary to look for ways to critically integrate new technologies into the learning process. The use of ChatGPT4 in the pedagogical process brings many advantages, disadvantages and challenges for the future. On the one hand, there are the following advantages: personalization of learning, which allows customization of content and understanding of complex concepts; support in the preparation of learning content, which includes assistance in creating presentation materials and organizing learning resources; increased student engagement through interactive activities. On the other hand, there are drawbacks such as problems with the accuracy of information, as the model may generate inaccurate or 'hallucinated' data; issues of adherence to research methodology, which can be misused for plagiarism or copying; and the risk of dependence on technology, which can lead to a reduction in independent thinking skills. Among these contradictions, challenges for the future are emerging, including ethical issues of using ChatGPT4, the need to train teachers in the effective use of technologies, and ensuring that all students have access to these tools. The main task for educators is to educate themselves about the use of these tools and their positive and negative effects, so that they can effectively help and protect students from potential harmful consequences and enable safe use of ChatGPT4 for themselves and their students.

Keywords: ChatGPT4, pedagogical process, ethics.

REHABILITATION TOWARDS RECREATION: A HOLISTIC APPROACH TO HEALTH AND WELL-BEING

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ABSTRACT

A comparative analysis of rehabilitation and recreation shows their interconnected nature. According to Hurd, Anderson & Mainieri (2021), therapeutic recreation, or recreational therapy, is a systematic process using recreation as intervention for those requiring specialized care due to illness, disability, or social conditions.

The journey from rehabilitation to sustained wellness bridges traditional therapy with lifestyle integration. Through structured activities transitioning from therapy as health care service to independent self-care practice, individuals develop sustainable healthy habits and confidence. This process begins with professional-guided sessions tailored to specific recovery goals, gradually evolving into independent pursuits that empower individuals beyond formal rehabilitation. Successful long-term engagement relies on personalization and adaptability, recognizing each person's unique interests and capabilities. Programs that harmoniously blend artistic and sporting activities create comprehensive recovery approaches.

Maintaining motivation involves setting achievable goals, community engagement, and celebrating progress. This personalized approach transforms recreational activities from mere treatment tools into sustainable lifestyle elements, supporting continued growth post-rehabilitation.

Keywords: recreation, rehabilitation, health, well-being.

CLIL AS A THEORETICAL CONCEPT AND RELEVANCE TO CONTEMPORARY EDUCATION

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ABSTRACT

Content and Language Integrated Learning (CLIL) is a dual-focused educational approach in which an additional language is used for the learning and teaching of both content and language. That is, in the teaching and learning process, there is a focus not only on content, and not only on language. Each is interwoven, even if the emphasis is greater on one or the other at a given time.

The term 'Content and Language Integrated Learning' (CLIL) was adopted in 1994 within the European context to describe and further design good practice as achieved in different types of school environment where teaching and learning take place in an additional language. There are two major reasons which underpin the interest in CLIL within a specific country or region. These involve reactive (responding to situations) and proactive (creating situations) responses to challenges or problems.

The forces of global change, converging technologies and adaptability to the subsequent Knowledge Age present challenges for education. And within education as a whole, they present challenges for the teaching and learning of additional languages. The presentation concludes that CLIL is not exclusive to the promotion of English as a world language but is embedded in the socio-economic, political and cultural traditions of different nations. CLIL not only promotes linguistic competence, it also serves to stimulate cognitive flexibility.

Keywords: CLIL methodology, theoretical concept, linguistic competence, cognitive flexibility.

THE USE OF LANGUAGE GAMES DURING THE TEACHING PROCESS IN THE DEVELOPMENT OF STUDENTS' CRITICAL AND CREATIVE THINKING

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ABSTRACT

In recent decades, in relation to teaching and learning in the development of children's critical and creative thinking, a series of reforms have been implemented in the pre-university education curriculum of the Republic of Albania, reforming the entire educational system.

Many years of work in the field of education have created the possibility of knowing more about the interaction between didactic innovations and creativity in the teaching and learning process in order to develop critical thinking in students, helping them to explore their mother tongue and find innovative solutions for their research.

Through this analysis, we can go deeper into the complexity of the educational structure, into the dynamics of its development, where the main focus is on learning, on the shaping of the individual and, more broadly, of society, seeing this process in the new context, in which teaching reports have been established in our schools.

The methodology of this work is based on the literature of the Ministry of Education and Sports, as in the Pre-University Education Legislation, the Pre-University Education Curriculum of the Republic of Albania. National Education Strategy-Albania (2021-2026) on the observations and research of many years of personal experiences in the field of teaching in pre-university education.

The study confirms the importance of didactic innovations where language games are integrated with learning, creating an environment that develops multiple skills and prepares children for future challenges for tomorrow's Albanian citizenship in the European framework and beyond.

This is for the realization of national strategies in education, management and implementation of new approaches in teaching and learning which directly affect the increase in the efficiency of the education system.

Keywords: language games, critical thinking, teaching, education, students.

EMOTIONAL INTELLIGENCE AND WORK-LIFE BALANCE IN TEACHERS

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ABSTRACT

***Purpose:** The purpose of this study was to investigate the impact of Emotional Intelligence and work-life balance on the quality of life of teachers.*

***Methodology:** The study used a quantitative methodology to meet the objectives of the study. While on the other hand, primary data was collected from responses to questionnaires widely distributed on the Google Forms platform. The sample of the study consisted of teachers from different public and private sectors in the city of Elbasan, Albania. In general, the participants in this study were a young age group, newly familiar with work and as such may still be trying to balance not only work-family conflicts but also to manage emotional intelligence in the workplace.*

***Findings:** The results of the study showed that there is no significant relationship between Emotional Intelligence and Work-Family conflict among the study participants. However, there was a significant relationship between Emotional Intelligence and Family-Work conflicts. The study also found that a high emotional intelligence also translated into a better quality of life among the study respondents, and these results varied depending on age, gender, education, length of time in the current job, and overall work experience.*

***Contribution to theory, practice and policy:** This research synthesis on Work-family conflict and Emotional Intelligence offers a multifaceted contribution to theory, practice, and policy. By integrating findings from diverse theoretical frameworks, it enhances our understanding of the complex interplay between emotional intelligence and the experience of work-family conflict. Practically, it highlights the significance of emotional intelligence in managing work-family conflict, suggesting interventions such as training programs and supportive organizational cultures. From a policy perspective, it suggests incorporating emotional intelligence measures into recruitment and advocating for work-life balance policies. Together, these insights pave the way for more effective strategies to promote well-being and productivity in the workplace.*

***Keywords:** emotional intelligence, conflict, balance, work, quality of life.*

AI AND HUMAN RESILIENCE

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ABSTRACT

In this paper, the author builds on an extensive literature review of AI's impact on the global market and reflects on decades of experience of AI within healthcare and higher education. The main contributions include recommending practices to enhance human resilience when AI exacerbates existing injustices. Broader public engagement in AI development and deployment across various sectors is essential to counteract AI from amplifying and reproducing existing power structures. The overarching ethical principle is preference-based utilitarianism, we need to reactivate the core human values such as mercy and the meaning of work and uphold the essence of higher education and healthcare. We must develop safe AI rather than AI-safe culture, foster dialogues on what needs to be changed for more people to flourish economically and socially, and steer the co-development process between technology and society through demystification, contextualization, engagement, regulation, and global actors. AI should be treated as a social-technical system, not a tool. Future research questions related to education and healthcare are proposed. The author believes that the choices made in the present AI system will significantly impact human resilience.

Keywords: *injustice, automation biases, preference-based utilitarianism, dignity of work, mercy.*

PARENTS' OPINIONS ABOUT THE USE OF SCREENS BY CHILDREN OF EARLY AND PRESCHOOL AGE

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ABSTRACT

In modern society, technology plays a significant role in the lives and habits of children, including children of early and preschool age. Exposure to screens, from television to mobile devices, is becoming more and more frequent and raises the question of potential impacts on child development. Experts in the field of early development increasingly emphasize the possible risks associated with excessive use of screens, such as a negative impact on attention, social skills and emotional development. In this research, we examined parents' opinions about the time their children spend in front of screens, about the content to which children are exposed, and about parental attitudes towards screen use and information about the consequences of that exposure. The research was conducted through an online questionnaire constructed for the purposes of this research. 213 parents of early and preschool children participated in the research. The results show that more than half of the parent's state that their child spends less than one hour in front of the screen per day. A smaller percentage of parents declare that their children spend one hour or 2-3 hours, while the fewest number of parents indicated four hours or more. The results of this research also indicate a significant awareness of parents about the potential risks of excessive screen use. This insight can be useful for professionals who work with parents and children, for example in preschool institutions, to further educate them about screen use strategies that are more appropriate for children's development. Empowering parents through workshops or information programs can further encourage them to mitigate the negative consequences of excessive screen use by introducing time limits and viewing content together.

Keywords: influence of the screen, parents, children of early and preschool age.

THE RELATIONSHIP BETWEEN TEACHERS' PSYCHOLOGICAL RESILIENCE AND OPINIONS ON THE USE OF DIGITAL TECHNOLOGIES IN EDUCATION

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ABSTRACT

Digital technologies and their capabilities occupy an important place in education. This is reflected in the transfer of knowledge to students, but also in the professional development of educational workers. In addition, there is a large number of studies that emphasize the advantages of using technology in the learning and teaching process, but also those that indicate its adverse effects on the social and communication competencies of children, youth and adults. The purpose of this study is to analyze teachers' opinions on the use of digital technology and its role in the teaching process and to determine the connection between opinions on digital technologies and teachers' psychological resilience. The study was conducted on a sample of 123 classroom and subject teachers. With regard to the use of digital technology in teaching, teachers mostly believe that they should guide students to critically evaluate digital resources ($M=4.69$). Regarding teachers' personal development, the highest value ($M=4.67$) is on the statement of responsible use of technology and use of digital technologies and tools for professional development ($M=4.43$). At the level of statistical significance ($p<0.05$), a positive correlation was found between teachers' psychological resilience and the variable of acceptance of technological progress in school and the assistance that technology provides in meeting the individual educational needs of students. Also, a significant positive correlation was found between teachers' psychological resilience and responsible use of technology ($p<0.01$) and psychological resilience and efforts to use the latest digital tools in teaching.

Keywords: psychological resilience, digital technology, teachers, opinions.

EVALUATION OF BURNOUT IN CLINICAL MENTORS AT AAB COLLEGE: INSIGHTS INTO INTERACTION DURING CLINICAL PRACTICE

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ABSTRACT

Introduction: Burnout among clinical mentors in nursing education is a critical concern, particularly as the demands of nursing education and mentoring responsibilities continue to grow.

Aim: This study aims to evaluate burnout levels among clinical mentors at AAB College and to explore how their interactions with nursing students during clinical practice influence their well-being and effectiveness as mentors.

Objectives: The study focuses on assessing burnout through dimensions of emotional exhaustion, depersonalization, and reduced personal accomplishment. It identifies contributing factors such as workload, stress management, and support systems. Additionally, it evaluates the impact of mentor-student interactions on mentors' emotional well-being and proposes strategies to manage burnout and enhance mentoring effectiveness.

Material and Methods: This cross-sectional study employed a standardized, structured, anonymous online questionnaire administered to clinical mentors at AAB College. Data collection was conducted via Microsoft Forms and distributed through WhatsApp. Statistical analysis was performed using SPSS, employing Pearson correlation, ANOVA, and descriptive tests. The study period spanned October-November 2024.

Results: Most participants are female (84%), and 67% hold a bachelor's degree. While 53% feel satisfied with students' professional progress, 23% report communication challenges due to stress. Notably, 75% successfully balance their dual roles as mentors and healthcare professionals.

Conclusions: The findings highlight a predominantly female mentor workforce, with most holding a bachelor's degree. Despite satisfaction in fostering students' growth, challenges such as stress-induced communication barriers and energy deficits persist. However, many mentors effectively balance their professional and mentoring responsibilities.

Keywords: burnout, clinical mentors, nursing students, stress management, work environment.

TEACHERS' PERCEPTIONS AND RESISTANCE TO CHANGE REGARDING THE INTEGRATION OF AI IN THE TEACHING PROCESS

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ABSTRACT

The technological transformation that came from AI brought a huge impact in recent years and mainly in the field of education, also transforming the teaching process. This study aims to explore the experiences and perceptions of teachers regarding the resistance to change they show regarding the integration of AI in the teaching process. The population of this study was chosen as a random sampling for qualitative studies: 20 public high school teachers in Albania, a diverse sample, and teachers of different subjects from different areas.

The study used qualitative design, conducting 20 semi-structured interviews with the participants. To analyze the data, thematic analysis was used to identify and analyze the issues and themes of the transcripts of the interviews.

The analysis resulted in four main topics: benefits from technology but also dependence on technology, obstacles in the adoption of AI, resistance to change, as well as the need for further training in this field.

This study contributes to the understanding of the ways in which teachers perceive and react to the integration of AI in today's education and offers recommendations for improving the process of training and implementing technologies.

Keywords: artificial intelligence (AI), education, teachers' perceptions, resistance to change, technology integration, AI in teaching.

MORE THAN DANCE: THE MULTIFACETED OBJECTIVES OF THE BALLET CLASS

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ABSTRACT

The ballet class transcends its traditional function as a training ground for technical mastery, encompassing multiple dimensions that contribute to the holistic development of dancers. Grounded in deliberate practice, it is a ritualistic space where artistry and athleticism merge, supporting physical, mental, and emotional well-being. Drawing on the PERMA model of well-being (positive emotions, relationships, meaning, achievement), the class nurtures proprioception and interoception, fostering a sense of "authentic happiness."

This multifaceted practice serves as a ritual of self-care, enhancing the connection between mind and body through somatic methods such as Bartenieff Fundamentals and Body-Mind Centering®. It also functions as physical training, improving flexibility, strength, balance, and technique through structured exercises. Beyond the physical, the class is an academic discipline for understanding ballet history and vocabulary, a mental discipline cultivating focus and self-control, and a medium for storytelling through expressive movement.

Moreover, the ballet class is a space for creative play, identity exploration, and self-expression, encouraging dancers to embrace individuality and develop their artistic voice. It has therapeutic benefits, aiding posture, stress management, and emotional well-being, and acts as a spiritual practice, immersing dancers in a state of "flow." As a reflective practice, it provides opportunities for guided introspection, promoting awareness of personal progress and limitations.

Ultimately, the ballet class is a comprehensive tool for physical and mental growth, artistic exploration, and self-discovery, establishing its enduring significance in the dancer's journey.

Keywords: artistic exploration, ballet, reflection, self-expression, toolbox.

CHRONIC PAIN IN BLACK/AFRICAN AMERICANS LIVING WITH HIV AND OPIOID MISUSE

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ABSTRACT

Introduction: In the United States there has been an increase in opioid/synthetic opioid overdoses and deaths, particularly among Black/African Americans (B/AA). Among patients living with HIV (PLWH), 40% of whom identify as B/AA, opioid misuse is prevalent, particularly among those with chronic pain. Pain-related anxiety may be associated with increased opioid misuse, and pain efficacy may be associated with decreased opioid misuse in patients with chronic pain. The aim of this study was to examine the association between race and pain efficacy on pain anxiety among PLWH with chronic pain. Methods: PLWH were recruited from an outpatient infectious disease clinic with self-reported chronic pain. Results: Seventy percent of the sample met criteria for current opioid misuse and 73% of B/AA patients met criteria for current opioid misuse. Negative binomial regression analysis indicated that depression and HIV symptom distress were associated with greater pain anxiety. Interactions with race indicated that among B/AA higher pain efficacy was associated with lower pain anxiety. Conclusions: These outcomes suggest that clinicians should focus on managing mood and distress associated with HIV symptomology. Additionally, clinicians should focus on increasing pain efficacy, to reduce pain anxiety and the possibility of opioid misuse in this vulnerable population.

Keywords: HIV, opioid misuse, opioid/synthetic opioid overdoses, chronic pain.

EFFECT OF INTERVENTION WITH THE PARO ROBOT ON IMPROVING OUTCOMES IN ELDERLY PEOPLE WITH DEMENTIA: A SYSTEMATIC REVIEW

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ABSTRACT

Introduction: Care for people with dementia includes pharmacological and non-pharmacological interventions. With the development of technology, robots have been developed to help the elderly population with dementia.

Purpose: The aim of this systematic review was to explore the current global evidence regarding the effect of the PARO robot intervention in elderly people with dementia.

Methods: We performed systematic review of literature published between the 2010 and 2024 period according to Preferred Reporting Items for Systematic Review (PRISMA). PubMed and Google scholar databases were used. The quality appraisal of the studies was conducted using the Joanna Briggs Institute.

Results: The participants were mainly divided into two groups, the treatment group and the control group. All participants were over 65 years of age. According to the intervention, 5 studies have used only the PARO robot, a study comparing the effect of the PARO robot and the plush and a study applying a humanoid robot (NAO), a pet robot (PARO) and a real animal (DOG) in therapy sessions of patients with dementia.

Conclusion: This review contributes significantly to the body of knowledge regarding the effect of the PARO robot in the treatment of dementia in the elderly, however additional research is needed.

Keywords: dementia, non-pharmacological interventions, social robots, PARO.

DISTRESS OF FORCED MIGRATION: REFUGEES FROM UKRAINE IN SLOVENIA

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ABSTRACT

A series of physical and symbolic losses, insecurities and distresses that can be among the risk factors for the prevalence of mental health difficulties accompany the process of forced migration. They relate to factors experienced by forced migrants before, during and after the migration process. Among the recently forcibly displaced populations, refugees from Ukraine figure prominently. Drawing on semi-structured interviews with experts in the field of migration/asylum/mental health (e.g. social workers, psychotherapists, cultural mediators, asylum counselors, psychosocial help providers, lawyers etc.) that come into contact with Ukrainian refugees, the contribution will explore the main factors related to mental health difficulties among forced migrants from Ukraine in Slovenia. These can be identified before their migration (war, political instabilities, violence); during the migration process (insecurities, lack of information) as well as after their arrival to new countries (stigmatisation, discrimination, inadequate housing, lack of employment and educational possibilities, social and migration policies, etc.). The time criterion of temporariness will be examined from the point of risks for social exclusion and various forms of (mental) health, economic and other social vulnerabilities, especially in new societies, but also in countries of origin.

Keywords: forced migration, refugees, Ukraine, mental health, distress.

THE IMPACT OF A MENTAL HEALTH PROMOTION PROGRAMME ON DEPRESSION AWARENESS

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ABSTRACT

Mood disorders are widespread, with anxiety and depression predominating. Depression affects thirteen percent of the population and is a major public health problem. In 2017, Slovenia launched a mental health promotion program called Improving Literacy on Mood Disorders (OMRA). Built on the concept of mental health literacy (MHL), the program provides educational workshops and an online platform designed to enhance MHL, with a particular emphasis on mood disorders. We examined the level of knowledge about depression among the 1485 participants of the online or on-site workshops, who were asked to complete a questionnaire on the characteristics and treatment of depression before and after the implementation of the psychoeducational topic set on depression. The results show that the average knowledge about depression after the OMRA workshop was 25.5% ($p < 0.001$) higher than before the workshop. Of the socio-demographic variables - gender, age, place of residence and education - the gender variable had the greatest impact on knowledge of depression, with women responding better on average than men ($p = 0.024$). The OMRA programme will continue to address the social and economic burden of mental disorders by improving access to information and reducing the stigma associated with mental health.

Keywords: mental health literacy, mood disorders, depression, OMRA program.

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PHYSIOTHERAPY

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SCHOLARLY PANEL

ADVANCES AND INNOVATIONS IN MINIMALLY INVASIVE PAIN TREATMENT

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ABSTRACT

Chronic pain has a significant impact on quality of life. The latest minimally invasive techniques are becoming increasingly important in the treatment of various chronic pain conditions. Each technique has its own mechanisms, clinical applications, patient outcomes and potential risks.

In addition to these techniques, it is important to understand the critical role of physiotherapy in pain management, focusing on its ability to increase mobility, improve function and reduce reliance on further interventions. The primary modalities of physiotherapy, including manual therapy, exercise and ultrasound, offer many benefits when combined with minimally invasive procedures.

Innovative neuromodulation techniques such as transcranial magnetic stimulation (TMS) and transcranial electrical stimulation (TES) modulate nerve activity to relieve chronic pain. These non-invasive methods have shown promise for conditions such as neuropathic pain, fibromyalgia and migraine. Researchers are investigating the mechanisms, applications and evidence-based efficacy of these techniques to highlight their value in multimodal treatment plans.

Finally, combining minimally invasive procedures such as physiotherapy, TMS and TES could improve outcomes, particularly in patients requiring long-term pain relief. Future directions in multimodal pain management highlight the importance of personalised treatment protocols and the integration of these approaches into clinical practice to effectively manage the complexity of chronic pain.

Keywords: chronic pain, minimally invasive techniques, pain management, neuromodulation, multimodal treatment.

IMPACT OF LOWER-LIMB COGNITIVE-MOTOR EXERGAME TELEREHABILITATION ON FALL PREVENTION AND NEURAL MECHANISMS IN PARKINSON'S DISEASE PATIENTS

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ABSTRACT

Telerehabilitation (TR) delivers traditional rehabilitation remotely using technology and can incorporate exergames – Interactive, physical activity-based games – to boost patient engagement and quality of life (QoL). Exergame platforms have demonstrated effectiveness for patients with Parkinson's disease (PD). Additionally, lower-limb cognitive-motor exergame platforms enable patients to improve both cognitive and motor skills, helping to prevent falls and enhance QoL.

This study will evaluate the effectiveness of a lower-limb cognitive-motor exergame TR platform for PD patients. Participants will be assigned to a 12-week exergame TR program (five weekly sessions, 15-20 minutes each) or a control group receiving standard treatment. We will conduct pre- and post-testing to assess treatment effectiveness and QoL outcomes. Testing will include various cognitive and motor assessments, with a primary focus on evaluating gait initiation using a modified Go/No-Go dual-task paradigm. This will be complemented by monitoring brain activity through electroencephalography to analyze beta-band desynchronization (BD) as a marker of motor planning.

The study protocol for the ProHealth project, which runs from July 1, 2024, to June 30, 2027, will be presented at the conference.

Keywords: cognitive-motor training, exergames, Parkinson's disease, fall prevention, telerehabilitation.

NEUROPLAY: BRIDGING GENERATIONS THROUGH MOTOR-COGNITIVE TRAINING

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ABSTRACT

Introduction: The NeuroPlay project (Continuous-Intergenerational-Play-for-Neuroplasticity, GA: 101134703, ERASMUS-SPORT-2023-SSCP) aims to enhance neurological development in children while promoting cognitive and physical health in grandparents through intergenerational motor-cognitive training. The project is a collaboration among partners from Slovenia, Bulgaria, and Austria, utilizing expertise in kinesiology, neuroscience, and physical therapy.

Methodology: NeuroPlay incorporates diverse activities to achieve its objectives. To date, an international workshop was conducted as part of the SPE-Balkan-Ski-conference, and six-national-workshops in partner countries have been partially completed. Additionally, a summer-camp focused on intergenerational activities has concluded, while a winter-camp is planned for the next phase. Feedback from participants and trainers has been collected through standardized questionnaires.

Results: Preliminary feedback from the international and national-workshops, as well as the summer-camp, indicates high levels of satisfaction. Participants rated the workshops an average of 4 out of 5, emphasizing the clarity of instructions, the relevance of the activities, and the effectiveness of fostering intergenerational connections. Trainers highlighted the practicality of the methodologies and their applicability across various settings.

Conclusions: The NeuroPlay project demonstrates significant potential in promoting intergenerational collaboration. Preliminary results validate the project's approach, highlighting the importance of tailored motor-cognitive activities in supporting neurological and physical health across generations.

Keywords: intergenerational, neuroplasticity, motor-cognitive training, neurological development, health promotion.

THE IMPACT OF PREOPERATIVE REHABILITATION ON POSTOPERATIVE OUTCOMES IN COXOFEMORAL JOINT ARTHROPLASTY: A LITERATURE REVIEW

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ABSTRACT

General Information: Arthroplasty or total joint replacement surgery of hip is considered as one of the most frequently procedures nowadays and it is the final solution for severe osteoarthritis. It is considered as one of the most successful medical interventions, with significant pain relief and improvement in physical function and quality of life for patients with severe osteoarthritis. Physiotherapeutic rehabilitation has an important role for better benefits, physical recovery, improvements of physical activities and Activities of Daily Living (ADL).

Purpose: The purpose of this study is to demonstrate if preoperator rehabilitation at patients scheduled for total hip replacement, influences to have better postoperative results and benefits.

Methodology: This study is a literature review conducted in 7 electronic databases (PubMed, ScienceDirect, Scinapse, Cochrane Library, ResearchGate, Embase, Medline). There were selected 9 studies. The studies has to accomplish the inclusions criteria. In our study were included randomized controled studies (RTC, prospective RTC, single-blind pilot RTC). The PEDro scale was used to evaluate the studies obtained.

Results: Out of 63 studies found, only 9 studies remained exclusion and inclusion criteria. According to PEDro Scale, one study were evaluated with 8 points, 1 with 7 points, 4 with 6 points and 3 with 5 points.

Conclusions: Our study results efficient to have better postoperative outcomes and benefits in the use of preoperator rehabilitation to patients planified THA.

Keywords: osteoarthritis, total arthroplasty of hip joint, preoperator rehabilitation, postoperator rehabilitation, exercise therapy, benefits, physical recovery.

DUAL TASKING IMPAIRS FORCE STABILITY IN PARKINSON'S DISEASE PATIENTS DURING KNEE EXTENSION TASKS

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ABSTRACT

Parkinson's disease (PD) is characterized by motor impairments that compromise force steadiness, affecting functional mobility and quality of life. This study examined the effects of dual tasking on force stability in PD patients compared to healthy controls. Fifteen PD patients and fifteen age- and sex-matched healthy participants performed a 32-second force-tracking knee extension task while seated in an isometric knee dynamometer. The tasks included a single visuomotor task involving trapezoidal force tracking and a dual task requiring concurrent subtraction by three from a random number between 300 and 500. High-density electromyography (HD-EMG) was recorded from the vastus lateralis muscle.

Force steadiness, coefficient of variation, and error rates were extracted from the steady portion of the trapezoidal contraction. Data were analyzed using mixed-effects linear models in the R environment. No significant differences were found in the coefficient of variation during the single task between groups. However, PD patients exhibited a significantly higher coefficient of variation in the dual task compared to controls ($p = 0.03$, Cohen's $d = 1.00$). Additionally, higher tracking errors were observed in PD patients during both single and dual tasks.

These results suggest that dual tasking exacerbates force instability in PD patients. Ongoing analyses at the motor unit level aim to uncover the motor control mechanisms responsible for these functional differences.

Keywords: vastus lateralis muscle, coefficient of variation, high-density electromyography, cognitive-motor interference.

THE EFFECT OF COMBINED PHYSIOTHERAPY TREATMENT WITH DYNAMIC SPLINTING IN PATIENT WITH TRAUMATIC HAND INJURY: A CASE REPORT

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ABSTRACT

Introduction: Hands are highly susceptible to traumatic injuries, the treatment of which can often result in postoperative complications such as hand stiffness. The aim of this study is to describe the importance of hand function and the effectiveness of physiotherapy combined with dynamic splinting in managing traumatic hand injuries. This study shows a 28-year-old male who sustained a traumatic injury in the left hand.

Methodology: Patient received combined physiotherapeutic treatment protocol which was developed using evidence-based physiotherapy approaches and current clinical guidelines for the rehabilitation of traumatic hand injuries. Hand assessment was done at the baseline after two, four, and six months. Pain was assessed using the verbal numerical scale (VNS), range of motion (ROM) was measured using a goniometer. Further, grip strength was assessed using the Jamar dynamometer.

Results: Pain reduced from 9/10 to 2/10; the total passive ROM increased from 30° to 160°; the total active ROM increased from 0° to 100°; and the grip strength increased from 3.3 kg after two months to 14.5 kg, six months after injury.

Conclusion: Following a traumatic hand injury, tailored combined physiotherapy treatment according clinical guidelines played a crucial role in restoring the functionality of the hand, pain, ROM, muscular strength, and coordination.

Keywords: hand function, traumatic injuries, physiotherapy, dynamic splinting.

SAFEGUARDING CHILDREN'S HEALTH AND WELL-BEING WITH GRADUAL PARTICIPATION-IN-SPORT STRATEGIES

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ABSTRACT

Introduction: The SAFESPORT project (ERASMUS-SPORT-2024-SSCP: GA: 101184383) aims to revolutionize sports-education by establishing comprehensive safety-protocols and promoting inclusive participation in sports. The project focuses on fostering children's development while mitigating risks associated with early sports specialization, such as injuries. Central to this initiative is the Genius-Safe-Motor-Program (GSMP), which integrates principles from judo-fall control, respect, critical-thinking, and dedication-into a multidisciplinary framework for safer physical activity.

Methodology: The project will develop a multi-format manual containing unified guidelines for safe sports participation. To disseminate these guidelines, an international workshop will train sport professionals, who will subsequently organize at least six national or international multiplier events in each partner country (Slovenia, Greece, Croatia). These events will target sports teachers, coaches, and educators, equipping them to implement GSMP methodologies. Specialized workshops will address the needs of disabled children and those from economically disadvantaged backgrounds, ensuring inclusivity.

Result: Key-outcomes include increased participation in sports, reduced injury-rates, improved mental-health, and enhanced capacities of sporting organizations. The project also seeks to raise awareness about the consequences of early specialization, empowering professionals and organizations to support safe, diverse athletic experiences.

Conclusion: By improving sports-education and promoting safe-participation, SAFESPORT contributes to European policies on sport, fostering healthier, more inclusive communities.

Keywords: child development, injury prevention, safe sport participation.

NEURODANCE - DANCING INTERVENTION TO AMELIORATE THE SYMPTOMS AND PROMOTE THE WELL-BEING OF PATIENTS WITH PARKINSON'S DISEASE

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ABSTRACT

Parkinson's disease (PD) is the second most common neurodegenerative disorder affecting over 1.2 million Europeans. The progressive loss of dopaminergic neurons leads to movement difficulties, cognitive decline, and dementia.

Neurodegenerative disorders are incurable, emphasizing the need for treatment options focusing on symptom management, improving quality of life, and delaying disease progression. Alongside medication, physical therapy and psychological support constitute crucial pillars of effective symptom management displaying significant impact on the well-being of individuals and their families.

Dance therapy – combining movement, rhythm, and social interaction, has shown physical, emotional, and cognitive benefits for individuals with neurodegenerative diseases. Despite this, the regular dancing interventions designed with a specialized understanding of the disorder's pathology and patients' needs, are not easily accessible to the wider community of patients with PD.

To strategically address this gap, the NeuroDance project will: first, train and educate young professionals in an inclusive dance therapy approach, and second, provide 3 rounds of a 5-month dancing intervention tailored to the specific needs of PD patients. The project's main goal is to enhance the patients' motor and social well-being. Here, we present the project's activities directed towards reaching this goal across Slovenia, the Czech Republic, Germany, and Greece.

Keywords: Parkinson's disease, dance therapy, European Project.

DANCE AS A FORM OF HOLISTIC THERAPEUTIC INTERVENTION FOR PEOPLE WITH PARKINSON'S DISEASE

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ABSTRACT

Parkinson's disease (PD) is a neurodegenerative disorder characterized by progressive motor and cognitive impairments that significantly impact daily functioning. While pharmacological treatments remain essential, their effectiveness declines over time, highlighting the need for complementary therapies.

Dance has emerged as a promising non-pharmacological intervention for PD, integrating motor, cognitive, emotional, and social benefits. It enhances balance, coordination, and mobility while stimulating cognitive function through choreographic memorization. Regular practice fosters neuroplasticity, strengthens neural pathways, and improves motor learning. Additionally, dance promotes emotional well-being by increasing dopamine and serotonin levels, reducing depression, and enhancing self-confidence. The social aspects of dance mitigate isolation and foster community engagement.

This paper explores the benefits of dance as a complementary therapy for PD, emphasizing its role in symptom management and quality of life enhancement. Given its holistic advantages, dance should be further integrated into PD treatment frameworks as an evidence-based therapeutic option.

Keywords: Parkinson's disease, think like a dancer, dance intervention.

EFFECTIVENESS OF VIRTUAL REALITY FOR PAIN MANAGEMENT IN MUSCULOSKELETAL DISORDERS ACROSS ANATOMICAL REGIONS: A SYSTEMATIC REVIEW AND META-ANALYSIS

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ABSTRACT

Introduction: Musculoskeletal (MSK) pain is a primary symptom prompting patients to seek physiotherapy consultations. The use of virtual reality (VR) in physiotherapy is expanding across various fields; however, while extensively researched in neurology, its application in MSK disorders remains underexplored. This review aims to evaluate the effectiveness of VR in pain management across different anatomical regions.

Materials and Methods: The research was conducted using the MEDLINE (via PubMed), Cochrane Library, Scopus, Web of Science, and Embase databases, including randomized controlled trials that evaluated the effectiveness of VR interventions, encompassing immersive VR, specialized non-immersive VR, and gaming platforms. The primary outcomes focused on pain reduction, while secondary outcomes assessed quality of life improvements. Data were extracted from the included studies, and methodological quality was evaluated using the Revised Cochrane risk-of-bias tool for Randomized Trials (RoB 2). A meta-analysis was subsequently performed, applying both random and fixed-effects models to synthesize the results.

Results: From 1,265 records, 27 articles met the eligibility criteria, comprising a total of 1,191 participants. Of these, 20 studies contributed data to the meta-analyses. Significant findings were observed for pain relief in the knee region (SMD = -0.33; 95% CI: -0.55 to -0.10; $I^2 = 13\%$, $P < 0.004$), with particularly notable effects within the subgroup utilizing specialized non-immersive VR (SMD = -0.32; 95% CI: -0.62 to -0.03; $I^2 = 10\%$, $P < 0.003$). For other anatomical regions, the heterogeneity was substantial, limiting the strength of recommendations for these areas.

Conclusion: VR shows promise as a therapeutic tool for managing pain in MSK disorders, particularly in knee-related conditions where it demonstrated significant effectiveness, especially with specialized non-immersive VR. However, substantial heterogeneity across other anatomical regions limits broader recommendations.

Keywords: exergames, rehabilitation, orthopaedics, anatomical districts, quality of life.

PROLONGED STATIC STRETCHING IN THE REHABILITATION OF DAMAGED TISSUES, NEUROLOGICAL DISORDERS, AND ORTHOPEDIC CONDITIONS: A REVIEW OF TWO DECADES OF RESEARCH

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ABSTRACT

Prolonged static stretching (PSS) is a proven method for improving range of motion in healthy populations, but its effects on injured tissues and rehabilitation are less explored. This literature review examines the effectiveness of PSS in populations with limited mobility due to injury or disease and identifies optimal therapeutic parameters. Studies published in the last 20 years were analyzed, sourced from six scientific databases (PubMed, PEDro, Cobbis, Google Scholar, Cochrane Library, and Science Direct) following the PRISMA model and evaluated using the PEDro scale. The review of 11 relevant studies (average quality: 4.4/10.0) revealed that PSS enhances range of motion in neurological and orthopedic patients, reduces spasticity, improves functional capacity of the affected limb with adequate stretch intensity, and promotes positive physiological changes (e.g., reduced viscosity and improved tissue elasticity). Interventions lasting over 30 minutes and extending beyond two weeks were the most effective, whereas less intensive or shorter interventions showed limited benefits. The limitations of this review include the low methodological quality of studies and the small number of available research articles. PSS shows to be promising as a rehabilitation method, but further high-quality research is needed to better understand its effects and define optimal parameters for different patient groups.

Keywords: prolonged static stretching, therapy, range of motion, injury, patients.

TELEREHABILITATION: ADVANCING FUNCTIONALITY AND QUALITY OF LIFE IN NEUROLOGICAL DISORDERS

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ABSTRACT

Neurological conditions such as stroke, multiple sclerosis (MS), and Parkinson's disease (PD) significantly impair quality of life (QoL). Traditional therapies are essential but often limited by geographical, logistical, and physical barriers. Telerehabilitation (TR), which delivers therapy remotely via telecommunication technologies, offers a promising alternative.

This PhD thesis comprised three quantitative projects aimed at developing and evaluating a TR model for neurological rehabilitation. Project 1 involved a systematic review and meta-analysis of randomised controlled trials (RCTs) and controlled clinical trials (CCTs). TR was shown to be safe, feasible, and comparable to in-person therapy in improving QoL for stroke patients (SMD = 0.41, 95% CI: 0.12, -0.70), with similar efficacy observed for MS and PD. Project 2 was a longitudinal pilot study involving 84 stroke survivors who completed a multi-domain TR programme, demonstrating improvements in motor function, balance, cognitive performance, and health-related QoL (HRQoL). Project 3, a single-blind pilot RCT with 41 participants, assessed the impact of TR on balance, with the TR group showing significant improvements. High user satisfaction was reported, with a System Usability Scale score of 90.3.

These findings highlight the potential of TR as an effective and accessible intervention for chronic neurological conditions. Further research is needed to optimise TR protocols and broaden their application across diverse patient populations.

Keywords: telerehabilitation, e-health, neurorehabilitation, stroke, parkinson's disease, multiple sclerosis, virtual reality.

STUDENT PANEL

REAL-TIME MUSCLE FATIGUE DETECTION VIA FES-INTEGRATED EXOSKELETON SYSTEM

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ABSTRACT

This study presents a novel human muscle fatigue detection system during functional electrical stimulation (FES) based on interaction force with an exoskeleton platform. The muscle fatigue detection system was developed by analyzing real-time physical human-robot interaction (pHRI) torque during exoskeleton assisted walking. Five healthy adults were recruited for rectus femoris-stimulated walking experiments wearing a lower limb exoskeleton. FES was applied at different gait phases, characterized by an intensity of 20–30 mA, a frequency of 40–60 Hz, and lasting 1.5 seconds within each 4-second gait cycle. Meanwhile, real-time dynamic torque analysis were performed during the experiments to quantify the effects of FES on knee joint pHRI torque, thereby enabling effective detection of muscle fatigue. The experimental results demonstrated that FES significantly increased the peak pHRI torque of the knee joint during continuous walking, while its efficacy gradually diminished over the course of sustained electrical stimulation. Furthermore, additional experiments revealed that approximately 10 gait cycles of rest following muscle fatigue could effectively slow down fatigue accumulation. The evaluation system, utilizing dynamic thresholds, accurately captured muscle states and determined fatigue levels. These findings validate the effectiveness of the proposed muscle fatigue detection system, laying a crucial foundation for the rational and efficient implementation of FES-exoskeleton hybrid system-assisted rehabilitation therapy.

Keywords: exoskeleton, functional electrical stimulation, muscle fatigue detection, human-robot interaction torque.

COMPARISON OF THE EFFECTS OF PHYSIOTHERAPY TREATMENT FOR FINGER INJURIES USING HIGH-TONED ELECTROTHERAPY (HITOP) AND TRANSCUTANEOUS ELECTRONEUROSTIMULATION (TENS) IN SPORT CLIMBERS

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ABSTRACT

The thesis examines finger injuries in sport climbers, focusing on the effectiveness of high-tone power therapy (HiToP) compared to transcutaneous electrical nerve stimulation (TENS) in the rehabilitation of these injuries. The theoretical part shows that injuries most commonly occur on the third and fourth fingers, with the most frequent injuries being to the annular ligaments of the fingers, tenosynovitis, tendovaginitis, and joint capsule injuries. Physiotherapeutic treatment with HiToP and TENS therapy did not significantly affect the mobility of injured fingers in sport climbers. However, HiToP therapy proved to be more effective in reducing the pain intensity of the injured finger, as assessed by the VAS scale, and in increasing hand grip strength. For successful rehabilitation of finger injuries, patients are advised to use the correct technique for applying rigid adhesive tapes, engage in early active movement within the joint's range of motion, and use of a static splint for annular ligament injuries. Despite disproving one out of three hypotheses, the thesis provides a foundation for further research on finger injuries in sport climbers.

Keywords: finger injuries, sport climbing, high tone power therapy, transcutaneous electrical nerve stimulation, physiotherapy treatment.

ENTREPRENEURSHIP AND THE USE OF THE BUSINESS MODEL CANVAS IN DECIDING ON A PRIVATE PHYSIOTHERAPY PRACTICE

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ABSTRACT

Creating a quality business model plays a key role in the process of planning a business, as it helps determine whether an idea is strong enough to be transformed into a market opportunity. The purpose of this study was to present entrepreneurship, business models, entrepreneurship in healthcare, and the laws and organization of healthcare in Slovenia. A descriptive method was used, with literature sourced from international databases such as PubMed and PEDro, and an analysis of Slovenian healthcare laws. The results showed that the Canvas business model is an effective tool for planning the establishment of a private healthcare business. It offers a comprehensive approach, encouraging entrepreneurs to reflect on key aspects such as costs, customers, revenue streams, and value propositions. This study aims to present an effective tool for planning and evaluating the feasibility of creating a private healthcare business in the field of physiotherapy. It also outlines the requirements, procedures, and challenges involved in aligning with the strict regulations that may arise during the planning process for establishing such a business.

Keywords: entrepreneurship, business model, Canvas business model, laws and healthcare organization.

TREATMENT OF MUSCULOSKELETAL INJURIES WITH REMOTE PHYSIOTHERAPY – LITERATURE REVIEW

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ABSTRACT

Theoretical background: Musculoskeletal injuries are injuries that affect joints, bones, muscles and other soft-tissue structures that make up the locomotor system. They are one of the most common causes of the need for rehabilitation and physiotherapy treatment. They can affect anyone at any age and reduce their quality of life. In this article we describe what musculoskeletal injuries are, how they are conventionally treated, what tele-rehabilitation and tele-physiotherapy are and how tele-physiotherapy can treat musculoskeletal injuries.

Method. In the theoretical part, we summarised data from the reviewed professional and scientific literature and presented them using the descriptive method. In the empirical part, we analysed, described and compared the reviewed professional and scientific literature, which we selected using the PRIZMA system.

Results. After reviewing selected professional and scientific literature, we have concluded that tele-physiotherapy is effective and comparable to face-to-face physiotherapy in the treatment of musculoskeletal injuries. No significant differences were found between the two in the studies between the two forms of therapy. Despite the different approaches and metrics used by the authors of the included studies used, we found that the average effectiveness of telerehabilitation in comparison with face-to-face physiotherapy on measures of function, at a set confidence interval of 95% confidence interval and $p = 0.05$, was approximately 1.2 (95% CI; -13.5 to 9.8; $p = 0.4$). Of all the studies included in the study, tele-physiotherapy was found to be comparable in 50% and even better than face-to-face physiotherapy in 50%.

Discussion: After a careful review of all the articles, we found that there are many advantages of remote delivery of physiotherapy, that it is comparable to conventional physiotherapy, and that it is effective and feasible.

Keywords: tele-physiotherapy, telehealth, tele-rehabilitation, musculoskeletal disorders, musculoskeletal injuries.

THE IMPACT OF ECCENTRIC EXERCISE ON PAIN AT ADULTS WITH ACHILLES TENDINOPATHY

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ABSTRACT

Achilles tendinopathy is a condition characterised by pain and swelling of the tendon. Its treatment is considered a very slow, lengthy and often unsuccessful process. The aim of this thesis was to analyse and answer the research questions based on a review of the professional and scientific literature. We were interested in how eccentric exercise affects pain and functionality in Achilles tendinopathy, what is the impact of eccentric exercise on pain over time, what is the success rate of eccentric exercise compared to other physiotherapy approaches to pain management and what are the shortcomings of the Alfredson protocol. 7 studies were analysed. Eccentric exercise was found to have positive long-term effects on pain and functionality. After analysis of the reviewed studies, it is known that up to the fourth week, eccentric exercise has almost no effect on pain. Positive results emerge after the fourth week and improve exponentially up to the twelfth week, where they diminish somewhat but nevertheless progress over time. For the treatment of Achilles tendinopathy, it is reasonable to combine eccentric exercise with other physiotherapeutic approaches, which have been found to have short-term effects. The Alfredson protocol has proven to be a successful but somewhat flawed protocol, which may account for the initial stagnation in the treatment of Achilles tendinopathy, and the number of repetitions, intensity and better definition of the treatments should be adjusted according to the individual.

Keywords: Achilles tendinopathy, eccentric exercises, pain, physiotherapy, mid-portion Achilles.

PHYSIOTHERAPY FOR INJURIES IN TWIRLING

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ABSTRACT

Baton twirling is a complex sport that includes elements of different dance expressions, rhythmic gymnastics on the floor and virtuosity combined with the simultaneous manipulation of one or more batons. Creating a coordinated routine requires a baton, a instrument constructed of metal usually slightly longer than the athlete's dominant arm.

The goal of the research was to investigate and determine the injuries that occur during the training process and the actual competition in the sport of twirling. The research was conducted among active twirling athletes and members of the Croatian Twirling Association. A total of 42 respondents participated in the research. Injuries in twirling occur during different phases of training, and the most common injuries are: knee (40%), foot (20%), hand (14.3%), face (11.4%), hamstrings (5.7%), spine, knees and hips and muscles (2.9%). The results of the research show that the most frequent injuries occur in the area of the lower extremities, mostly the knees. Injuries occur in contact during training on the floor. Most injuries were not treated, and if they were, they were treated with physical therapy. Physiotherapy in twirling is of great importance, starting from the very prevention of injury and the rehabilitation of injuries.

Keywords: physiotherapy, Baton Twirling, injuries, prevention, rehabilitation.

PHYSIOTHERAPY TREATMENT OF PATIENTS WITH FRIEDREICH'S ATAXIA

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ABSTRACT

Friedreich's ataxia is a rare hereditary and progressive neurodegenerative form of ataxia. It is the most common among the hereditary forms of ataxia. The disease is transmitted in an autosomal recessive manner and is caused by a defect or a mutation in the gene called FXN. Its pathology is not yet fully understood, but we know it is associated with a lack of the frataxin protein. Various neurological assessment scales are used to assess the condition and progression of the disease, some of which have been developed specifically for the assessment of Friedreich's ataxia. In my literature review, I wanted to determine if we can influence the speed of progression of Friedreich's ataxia with various physiotherapeutic methods and techniques, and which physiotherapeutic methods and techniques are the most effective in the treatment of this disease. We were able to include only 4 studies, as it is an area that has not yet been fully explored. Although the studies differed in the methods of measuring progress and in the physiotherapy methods, all showed positive effects of physiotherapy rehabilitation on patients with this disease.

Keywords: Friedreich's ataxia, physiotherapy rehabilitation, effects of rehabilitation.

PHYSIOTHERAPY APPROACH IN YOUNG SOCCER PLAYERS WITH NON-SPECIFIC LOW BACK PAIN

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ABSTRACT

Introduction: In the research we wanted to determine the effectiveness of kinesiotherapy on the extensibility of the hamstrings and trunk extensor muscles, on the capacity of the internal stabilizers muscles of the trunk, and on the tone of the trunk extensor muscles.

Methods: We included 11 young soccer players aged between 15 and 19 in the research. We performed 2 tests 8 weeks apart, where we performed the toe touch test, the double leg lowering test and TMG measurements of the trunk extensor muscles. The participants performed a kinesiotherapy programme with stretching exercises and exercises for the internal stabilizers of the trunk for 8 weeks.

Results: The results showed statistically significantly lower values in the double leg lowering test and statistically significantly higher values of the Dm parameter in TMG measurements.

Discussion: We found that kinesiotherapy had a positive effect on the strength of the internal stabilizers of the trunk, but no effect on the extensibility of the hamstrings and the trunk extensor. Based on the results of the TMG measurements we can conclude that kinesiotherapy had a positive effect on reducing the tone of the trunk extensor muscles.

Keywords: non-specific low back pain, soccer, kinesiotherapy.

EARLY PHYSIOTHERAPY TREATMENT OF CHILDREN WITH PERINATAL RISK FACTORS

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ABSTRACT

Physiotherapy treatment of children in Slovenia is carried out under the auspices of developmental clinics. The aim of our research was to present perinatal risk factors, their physiotherapy management, and the subjective opinions of parents about the treatment. Methods: We employed a descriptive research method, along with compilation, analysis, and synthesis. In the empirical part, a quantitative research method was used, utilizing a survey. Data were collected through an online questionnaire and processed with statistical analysis using the Wilcoxon test in IBM SPSS. The sample was non-random and purposive, including 139 women up to two years post-partum. Results: The most common risk factor in the sample was hypotonia (N=90; 64.7%). A total of 76.3% (N=106) of children were most frequently referred to physiotherapy treatment by three months of age, primarily to neurodevelopmental physiotherapy within the first six months of life. However, only a third (36.7%; N=51) of children were included in therapy within one month of being referred. According to the respondents, physiotherapy treatment most often involved educating parents on baby-handling methods for use in the home environment (N=115; 82.7%). On average, respondents were very satisfied with the treatment (mean score = 4.5; SD = 0.82), and generally satisfied with the information about motor development provided by the physiotherapist (mean score = 4.4; SD = 0.87). The Wilcoxon test indicated statistically significant relevance ($p < 0.05$). Discussion: Respondents generally had a positive perception of physiotherapy treatment for their children. Access to treatment was also rated as satisfactory; however, based on professional recommendations, the waiting time for such physiotherapy treatments should be reduced.

Keywords: motor development, risk factors, physiotherapeutic treatment, neurological developmental treatment, deviations from normal development.

SOCIAL GERONTOLOGY

SCHOLARLY PANEL

FEATURES AND FREQUENCY OF VIOLENCE AGAINST PARENTS BY ADULT CHILDREN IN THE REPUBLIC OF SLOVENIA

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ABSTRACT

This paper examines the features of violence against parents by adult children, with a specific focus on the Republic of Slovenia. The goal is to assess the prevalence of these offenses, identify the predominant forms of violence, and analyze trends from 2010 to 2020. We utilized statistics obtained by the Slovenian Police, focusing on criminal offenses involving adult children as perpetrators and their parents as victims. The offenses analyzed include manslaughter, murder, actual bodily harm, aggravated bodily harm, grievous bodily harm, sexual abuse of a defenseless person, and family violence. Additionally, we present the proportion of these acts relative to all crimes in a given year. Contributing factors to such violence include the mental health of adult children, alcohol and illicit drug abuse, financial dependency on parents, experiences of childhood abuse, and the health status of the parents, alongside the stress experienced by both parties. Our findings indicate that incidents of violence against parents are relatively infrequent compared to overall crime rates, with family violence being the most common offense at 11%. The proportion of all offenses analyzed ranges from 4% to 7% annually, underscoring the significance of this issue in the context of an aging population.

Keywords: violence against parents by adult children, prevalence, violent criminal offense, police statistics.

GENDER AND SOCIAL SUPPORT IN ELDERLY RESILIENCE: NAVIGATING THE TRANSITION TO LONG-TERM CARE

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ABSTRACT

This study investigates gender-specific resilience among elderly individuals during the transition to long-term care, emphasizing the pivotal role of social support in facilitating adaptation. Conducted with 10 elderly participants (5 men and 5 women) in Slovenian long-term care facilities, the research employed the Brief Resilience Scale (BRS) and in-depth interviews to examine resilience across dimensions such as personal competence, social support, family cohesion, and spirituality. Findings indicate that women exhibit higher resilience, engaging actively with social and family networks that mitigate the emotional impact of relocation. Conversely, men report increased isolation and a greater reliance on individual coping mechanisms, resulting in more significant challenges in adjusting to communal living. These findings underscore the need for gender-sensitive support systems that prioritize familial contact and promote social integration, customized to gender-specific resilience needs. This research enriches the discourse on social resilience in gerontology and advocates for inclusive care strategies in long-term care settings, aligned with the conference's focus on resilience in health and sustainable development.

Keywords: resilience, elderly, gender differences, social support, long-term care.

THE IMPORTANCE OF COGNITIVE ABILITIES AMONG OLDER ADULTS FOR THEIR USE OF ICT AND DIGITAL LITERACY

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ABSTRACT

Introduction: Life in an age and in a context where technology has increasingly become an integral part of our daily lives represent not only benefits but also challenges. Information and communication technology (ICT) has a significant impact on digital literacy among older adults. Internet use and digital literacy in older adults are particularly dependent on cognitive aging, i.e. age-related declines in an individual's cognitive abilities, as they find it more difficult to learn and develop new skills related to new technology and complex operational procedures. The purpose of the research was to evaluate the association between the internet use and cognitive abilities in older adults.

Methods: The research was based on the data from the 8th wave of the longitudinal Survey of Health, Aging and Retirement in Europe (SHARE). For older adults in Slovenia and Czechia the test scores numerosity task and scores from the ten-words list learning (immediate recall) were used as a measure of cognitive capability, while Internet use in the past seven days was used as a measure of digital usage. To evaluate the relationship between Internet usage and cognitive abilities we used logistic regression analysis with Internet use as dependent/criterion variable and numerosity and list memory learning as independent/predictor variables while controlling for gender, age, education and living environment.

Results: The results show that there is a strong relationship between Internet use and cognitive abilities evaluated with working memory and with the numeracy test. Older adults with higher cognitive abilities expressed significantly higher Internet use in the last seven days.

Discussion and conclusions: Our results unequivocally show that older individuals with reduced cognitive abilities have lower use of the Internet. These findings are thus important for intervention designers to consider cognitive capability when planning for digital education to improve ICT skills among older adults.

Keywords: older adults, SHARE, ICT use, digital literacy, cognitive abilities.

CARE4ELDERS: ADVANCING ACCESS TO PATIENT-CENTERED AND LONG-TERM CARE FOR PEOPLE WITH DEMENTIA- DEVELOPMENT OF AN EU HANDBOOK

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Philipp Nixdorf, Professor

Sophia Schulz, Researcher

Dolores Sanchez-Bengoa, Professor

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ABSTRACT

Dementia is a neurological disorder that leads to the progressive loss of cognitive functioning and reasoning. It encompasses a range of symptoms that worsen over time, affecting memory, causing confusion, impairing language, and comprehension, and requiring assistance with daily living tasks. An estimated 9.1 million people live with dementia in EU member states (OECD, 2018). This condition profoundly impacts the lives of individuals with dementia as well as their families, necessitating specialized care and sensitive management.

This project aims to introduce innovative, digital, and targeted approaches for the elderly health-care workforce. As part of this larger initiative, we are developing an EU Handbook to help upskill the workforce and enhance targeted treatment and care for people living with dementia and their caregivers. Digital health technologies will play a crucial role in delivering practical and accessible care solutions that can be assimilated effectively by people with dementia.

We aim to provide an overview of strategies and digital solutions that can support healthcare providers in their work with people living with dementia, while also raising awareness of this condition.

Keywords: dementia, upskilling workforce, older people, targeted treatment.

USING MODERN TECHNOLOGIES TO IMPROVE THE HEALTH RESILIENCE OF THE ELDERLY LIVING AT HOME

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ABSTRACT

Most older people want to live independently in their own homes for as long as possible, depending on their ability to maintain or regain optimal health and well-being despite the challenges of ageing. Research results known in the literature show that the adoption and use of ICT-based care, such as telecare, telehealth, smart homes, telemedicine using ICT devices and telecommunications network helps to achieve this goal.

The use of ICT-based care follows the policy of 'ageing in place' which promotes independence, allowing older people to continue to live in their own homes supported by ICT-based care.

The aim of this study is to investigate the theoretically known benefits and barriers to the use of ICT-based care. Then, a sample of 318 people over 60 years of age from Slovenia will be used to (i) examine the frequency of use of selected telehealth services, (ii) to find out whether the demographic characteristics of elderly explain differences in the extent of use of these services, and (iii) to find out which factors have a significant impact on the extent of use of ICT-based care.

Keywords: older people, ICT, telecare, Slovenia.

LONG-TERM VITALITY OF THE OLDER ADULTS THROUGH THE DEVELOPMENT OF COGNITIVE ABILITIES VIA VISUAL ARTS

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ABSTRACT

With an aging population, we are faced with many questions. One of these is how to maintain the cognitive abilities of older adults and integrate them into lifelong learning. The decline of cognitive abilities is more pronounced in later stages of life compared to younger ages. This presents various challenges in the field of working with older adults. Therefore, finding new and innovative ways to develop and maintain cognitive abilities is essential and has been highlighted in the Dementia Management Strategy. One possible way to preserve and develop cognitive abilities is through visual arts. For this purpose, 71 older adults, aged 65 and above, participated in art workshops focused on fractal drawing. Five groups were organized over a period of two to three months, with participants engaging weekly and practicing drawing at home as well. We aimed to determine whether regular engagement over a longer period affects certain areas of cognitive ability. Using a Likert scale, we measured emotional functioning, concentration and attention, cognitive skills, and overall health status before and after participating in the visual art workshop program. The results show that self-assessed values improved in all measured areas. We found that visual art can be an important method for maintaining cognitive abilities in older adults. This paper highlights the potential of artistic activities as an effective way to stimulate the cognitive development of older adults and emphasizes the need for greater integration of such programs into active aging strategies. In doing so, the long-term vitality of older adults is also preserved.

Keywords: older adults, visual arts, vitality, cognitive abilities, fractal drawing.

GRAY SPOTS IN PARTICIPATION OF OLDER ADULTS IN RESEARCH

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ABSTRACT

Introduction: The elderly, the fastest-growing population segment globally, are often affected by conditions like cancer, cardiovascular disease, arthritis, and Parkinson's disease. They are of particular interest in clinical and epidemiological studies, but their specific needs and limitations must be considered when designing research. In research focused on results, short-term achievements, and production, the promise of genuine participation from the studied population often takes a backseat. Researchers face difficulties implementing Participatory Action Research (PAR) models due to time and budget constraints. Ethics committees often define research development and relationships, as projects must be prepared with predefined objectives and outcomes before applying for funding, leading to "false PAR".

Methodology: Presentation of studies conducted at the Institute for Kinesiology Research (ZRS Koper) on the older population, through the PAR model, will highlight key barriers and challenges in study protocols, recruitment, and participation of older adults.

Results: Common barriers for participants including mostly: concerns about uncertainty and incomplete information, distrust, unplanned protocols, and different expectations.

Conclusions: To overcome barriers in involving older adults in research, studies should focus on interesting research questions and ensure that protocols and data collection are simple, clear, and understandable. Special attention should be given to fostering active participation, moving beyond shallow involvement where participants merely "receive" research findings, and instead offering them a more significant role in the research process.

Keywords: clinical and epidemiological studies, elderly participation, participatory action research (PAR), barriers and limitations, active involvement.

RELATIONSHIPS BETWEEN INTERNET USE AND MENTAL HEALTH AMONG OLDER ADULTS IN THE CZECH REPUBLIC AND THE REPUBLIC OF SLOVENIA

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ABSTRACT

As societies continue to age, there is concern that a growing proportion of older adults will experience declines in mental health, which may negatively impact their digital literacy in later life. This paper examines the relationship between Internet use and mental health among older adults aged 50 and above in the Czech Republic and the Republic of Slovenia. We analysed data from Wave 8 of the Survey of Health, Ageing, and Retirement in Europe (SHARE) project, collected at the beginning of the COVID-19 pandemic. The study reveals that older adults with better mental health are more likely to use the Internet in both countries. Conversely, older adults reporting higher levels of depression and loneliness are less likely to use the Internet, while those reporting higher levels of well-being are more likely to use the Internet. These findings are imperative for designing policies that promote digital inclusion for older adults, especially those facing mental health challenges. The contribution is part of the "Effect of Digitalisation in (Post) COVID-19 Era on Quality of Life and Social Inclusion of Older Adults" (DIGOLD) project, funded by the Czech Science Foundation (GAČR) and the Slovenian Research and Innovation Agency (ARIS).

Keywords: SHARE, older adults, internet usage, mental health.

THE IMPACT OF PETS AND ROBOTIC PETS ON THE HEALTH OF THE ELDERLY

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ABSTRACT

Pets and robotic pets have a significant impact on people's daily lives and their physical and mental health. Living with pets encourages social and physical interaction, reduces loneliness, and brings emotional support. For example, pet walks contribute to the encouragement of physical activity. However, self-care activities in the elderly can be challenging due to psychomotor disorders, therefore, robotic pets are more suitable for people with limited mobility which provides them with mental stimulation. Furthermore, robotic pets have been proven to reduce anxiety and the need for psychoactive drugs in elderly people with dementia, providing them with emotional support in situations where physical pets are not practical. In addition to that, pets often encourage bonding with others and verbal interaction, especially in nursing homes. Moreover, research on animal therapy shows that it improves motor and psychological symptoms in people with ALS. Along with that, robotic pets reduce anxiety in people with dementia, and therapy cats show potential in working with autistic people, improving social skills and motivation. In conclusion, pets or robotic pets adapted to the needs of the elderly have the capability to improve the quality of life of the elderly.

Keywords: *pets, robotic pets, physical activity, quality of life, emotional support.*

THE IMPACT OF MUSICAL THERAPY ON THE HEALTH OF THE ELDERLY

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ABSTRACT

In everyday life, listening to music has a positive psychosocial effect on people's health. Listening to music reduces stress levels and gives a sense of satisfaction. Also, music can positively influence people and their communication skills. Furthermore, musical therapy for the elderly can be used to achieve better physical, cognitive, emotional, and social health. It can be used in elderly people suffering from depression, stroke, dementia, Alzheimer's disease, and Parkinson's disease. In situations like that) it helps to reduce the stress level in trauma, while in palliative patients it helps to provide emotional support and reduce pain. Moreover, music therapy includes several segments: listening to music, singing, playing instruments, movement with music, and creating your own music. The benefits of music therapy for the elderly are numerous as it helps them to express themselves more easily, improve memory and concentration, and reduce stress and anxiety. Not only does music therapy affect the mental health of the elderly but it also provides them with feelings of satisfaction and happiness. For example, in homes for the elderly, music therapy is applied individually according to a person's physical, psychological, and cognitive needs. To sum up, musical therapy includes listening to music, relaxing with music, writing songs, organizing music workshops, and group singing. Musical therapy has a therapeutic effect and it can help in the rehabilitation of the elderly and have a positive effect on the mental health of the elderly.

Keywords: music therapy, elderly, health.

MOBILE APPLICATIONS AND INTERGENERATIONAL FAMILY CONNECTIVITY; RESEARCH ON USAGE AND IMPACT ON THE LIVES OF OLDER ADULTS

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ABSTRACT

This study examines the perception of older adults' involvement in digital communication within families, focusing on differences between children and grandchildren of these individuals. The aim was to investigate the impact of mobile applications on intergenerational communication and life satisfaction among older adults and to understand how technological innovations shape family relationships and the quality of their lives.

The methodology involved a cross-sectional survey conducted via an online questionnaire from 15th to 22nd March 2024, with 51 participants whose family members are over 60. Data analysis was performed using factor analysis, non-parametric tests (Mann-Whitney test, Spearman's rank correlation), and logistic regression analysis.

Results indicated no statistically significant difference in the perception of digital engagement between children and grandchildren ($p>0.05$). However, a statistically significant positive correlation was found between the perception of older adults' involvement in digital communication and their emotional connection with the respondents ($\rho=0.444$) and their overall satisfaction with daily life ($\rho=0.443$). No statistically significant association was found between the types of communication apps used and the quality of relationships ($p>0.05$).

Keywords: digital communication, intergenerational communication, mobile applications, older adults, life satisfaction.

CASE REPORT OF A PATIENT WITH DEPRESSION IN THE ELDERLY, INCLUDING MONITORING OUTCOMES, HEALTHCARE, AND COURSE OF TREATMENT

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ABSTRACT

Depression among the elderly population is a significant public health challenge. It is estimated that approximately 7% of the global elderly population suffers from depression, while in specific settings, such as nursing homes or among patients with chronic illnesses, the prevalence can reach up to 20%. Unfortunately, many cases remain undiagnosed or untreated due to stigma, lack of information about mental health, and the overlap of depression symptoms with signs of aging. Nurses play a crucial role in recognizing depression as well as in providing holistic care that includes physical, emotional, and educational aspects. By using tools such as the Geriatric Depression Scale (GDS) and monitoring symptoms such as insomnia, loss of appetite, and frequent doctor visits due to physical complaints, nurses enable early diagnosis and intervention. Through collaboration with multidisciplinary teams, they ensure timely and comprehensive treatment. This case presentation aims to describe the onset and contributing factors of the disease, the course of treatment, as well as the planning and implementation of nursing interventions. The importance of depression prevention in the elderly is emphasized, as well as understanding the pathology and pathophysiology of the disease to improve the quality of life for patients in this vulnerable population.

Keywords: depression, elderly, health care, outcomes, treatment.

DIFFERENCES IN DIETARY HABITS BETWEEN MEN AND WOMEN IN SENIOR CARE HOMES

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ABSTRACT

Understanding dietary differences between male and female residents in senior care homes is essential for effective nutritional interventions. This study aimed to identify statistically significant differences in dietary habits between men and women. The sample included 104 residents (24 men and 80 women), assessed through a structured questionnaire examining food and beverage intake, preferences, and dietary restrictions. Data analysis using the t- test highlighted significant gender-based differences in dietary behaviors, such as food types and consumption frequency. The findings emphasize the need for gender-specific nutritional strategies to better support residents' health. Results indicate potential for enhancing dietary programs by tailoring them to male and female needs, improving overall resident well-being.

Keywords: senior care homes, dietary habits, gender differences, nutrition, quality of life.

APPLICATION OF BIOMARKERS IN HEALTH CARE OF THE ELDERLY: POTENTIALS, CHALLENGES AND FUTURE

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ABSTRACT

Biomarkers have a significant application in the health care of the elderly, enabling early diagnosis, monitoring of disease progression and personalized therapy. The use of biomarkers can improve the detection of neurodegenerative diseases, cardiovascular disorders and other conditions that affect the elderly. However, challenges in their application include validation, specificity in the elderly population, and the need for standardization. Despite this, biomarkers promise to improve the quality of life of the elderly and more efficient health care in the future.

Keywords: biomarkers, elderly, health care, early detection, neurodegenerative diseases, personalized medicine, challenges, standardization.

LONELINESS IN OLDER ADULTS OVER 65 YEARS OF AGE

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ABSTRACT

Among individuals in modern times, loneliness is a serious problem that affects many people, especially the elderly population. It is particularly worrying because of its impact on the social, emotional and health aspects of the elderly.

Loneliness can lead to social isolation, where an individual does not have enough or generally no social contacts. As a result, there is a frequent withdrawal from social life and loss of social bond. Loneliness is closely related to emotional distress such as depression, anxiety, and low self-esteem. People who feel lonely often report feelings of sadness, hopelessness, and worthlessness. Prolonged loneliness can lead to serious mental health problems and reduce quality of life.

It can also increase the risk of another various health problem, including cardiovascular disease, high blood pressure, a weakened immune system, and cognitive decline. In individuals in the third stage of life, loneliness may even be associated with an increased risk of death.

Keywords: loneliness, older adults, health and social aspect, social isolation, risk factors.

BOREDOM PRONENESS IN OLDER ADULTS

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ABSTRACT

Boredom proneness in older adults is a recurring theme in gerontological literature with profound implications for mental health and overall well-being. This literature review explores the phenomenon of boredom proneness among older adults, its underlying causes, and its potential consequences.

As people age, they may experience significant lifestyle changes such as retirement, loss of loved ones, and declining physical health, all of which can contribute to increased boredom. The review showed that boredom proneness in older adults is associated with negative outcomes such as depression, cognitive decline, and decreased overall well-being.

Understanding the factors that contribute to boredom proneness in older adults is essential for developing effective interventions to enhance their quality of life and mitigate the adverse effects of boredom in this population. Meaningful engagement, social connectivity, and tailored activities have shown the most potential in relieving boredom. Future research should focus on identifying specific interventions that can be tailored to the unique needs of older adults to improve their mental and emotional health.

Keywords: boredom proneness, older adults, well-being.

SEXUAL ACTIVITY OF OLDER ADULTS OVER 55+ YEARS IN THE LIGHT OF SUCCESSFUL AGING

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ABSTRACT

Sexuality in older adults (55+) is often overlooked due to stereotypes, despite being a key aspect of successful aging. A study of 651 individuals aged 55-75 (36.4% men, 63.6% women) explored how personality, social, cultural, physiological, and environmental factors influence sexual satisfaction and motivation for an active sexual life. The study used the ASKAS, Fraboni's Ageism Scale (FSA), and the Successful Aging Scale (SAS).

The results revealed a significant positive correlation between health status and sexual satisfaction ($0.2 < r < 0.4$; $p < 0.001$) and a strong link between knowledge about sexuality and sexual satisfaction ($F = 90.027$; $p < 0.001$). Statistical methods included factor analysis, ANOVA, t-test, bivariate regression, and chi-square test.

To address the negative perceptions of older adults' sexuality, which often hinder active sexual lives, we developed an educational model for high-quality sexual health care for older adults (55+). This model proposes holistic, comprehensive solutions that can be directly implemented through primary health care without referrals, aiming to promote the understanding of sexuality as a vital and beneficial aspect of human life, regardless of age.

Keywords: older adults, sexuality, stereotypes, activity, withdrawal, satisfaction.

USE OF ELECTRONIC TRACKING DEVICES FOR DEMENTIA PATIENTS: A LITERATURE REVIEW

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ABSTRACT

The use of electronic tracking devices for dementia patients has gained significant attention as a promising solution to manage the behavioral symptoms of dementia, particularly wandering. Wandering is a common and potentially dangerous behavior in patients with dementia, leading to distress among caregivers and patients alike. Electronic tracking systems, including GPS and RFID, have been introduced to improve patient safety by providing real-time location monitoring. This review examines the effectiveness, benefits, challenges, and ethical considerations related to electronic tracking devices used for dementia patients, based on literature published between 2020 and 2024. By synthesizing findings from 15 recent studies, this paper evaluates the growing role of tracking technologies in dementia care.

Keywords: dementia, Alzheimer's disease, wandering behavior, electronic tracking devices, location monitoring, gerontechnology.

SPECIFICITY OF NUTRITION FOR THE ELDERLY - A CASE STUDY OF A PATIENT WITH DIABETES

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ABSTRACT

Proper nutrition combined with appropriate physical activity positively affects the function of all organs, helps preserve muscle mass, and slows down degenerative processes. Meals for elderly individuals should be tailored to their specific needs. Adequate nutrition significantly influences the quality of life and health of older adults, making it a vital aspect of care. Cultural environments also shape our dietary habits; food choices may vary due to different cultural, geographical, religious norms, and medical philosophies. Optimal nutrition can reduce the risk of various diseases, with obesity, diabetes, and cardiovascular diseases being the most common among the elderly population. Aging is a natural biological process, but poor habits and inadequate nutrition can lead to premature aging or death. Quality of life directly depends on what we consume throughout all stages of life. As an individual ages, their dietary habits change, making it important for them to be aware of these changes and actively participate in shaping their eating habits. Caregivers of elderly individuals should be educated about proper nutrition, as it plays a key role in healthy and quality aging. Nutrition for older adults should be adapted to their health conditions to meet their nutritional and energy needs, which is especially crucial for specific health issues. It is essential to follow the principles of a balanced diet and maintain regular physical activity. Healthcare professionals need to recognize the changes and specific needs that arise in older adults and continuously educate themselves to better understand their needs and provide them with safer and higher-quality aging.

Keywords: older people, aging, nutrition, physical activity.

FOREST THERAPY FOR OLDER ADULTS: A NATURE-BASED SOLUTION FOR HEALTHY AGING

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ABSTRACT

With the global population aging rapidly, innovative solutions are essential to enhance the health and well-being of older adults. Forest therapy, a nature-based practice integrating mindfulness and immersion in natural environments, addresses physical, mental, and emotional challenges associated with aging. It supports cognitive function, reduces stress, elevates mood, and fosters social interaction, offering a cost-effective complement to traditional healthcare services.

Conducted in small groups, forest therapy strengthens interpersonal bonds and combats social isolation, a growing concern among older adults. This approach fosters a sense of belonging and encourages meaningful connections, improving overall mental health and life satisfaction.

Urbanization and detachment from nature exacerbate challenges like loneliness and cognitive decline, underscoring the need for solutions like forest therapy. Its benefits align with green prescribing trends, which promote health through nature-based activities such as guided walks and conservation projects. These initiatives emphasize mindfulness, physical activity, and social connection, addressing both individual and community well-being.

By leveraging nature's therapeutic power, forest therapy offers a sustainable, person-centered approach to healthy aging. Its integration into healthcare systems provides a valuable tool to reduce loneliness, enhance emotional well-being, and support an aging population in living healthier, more connected lives.

Keywords: forest therapy, healthy aging, older adults, green prescribing, social isolation.

THE ROLE OF OCCUPATIONAL THERAPY IN ENHANCING SOCIAL PARTICIPATION FOR STROKE SURVIVORS: A SCOPING REVIEW

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ABSTRACT

Stroke is a leading cause of mortality and disability globally, with survivors often facing challenges in social reintegration due to physical, cognitive, and communicative impairments. This scoping review was performed to explore the role of occupational therapy (OT) in promoting social participation for people after stroke, based on 12 studies analyzed using the Joanna Briggs Institute's methodology. The findings highlight the complexity of social reintegration, emphasizing the influence of personal motivation, supportive environments, and targeted OT interventions. Factors facilitating reintegration include family and social support, meaningful activities, and personal characteristics such as optimism and resilience. In contrast, environmental barriers, transportation challenges, and strained personal relationships hinder social participation. OT interventions, such as therapeutic gardening and home-based adaptations, demonstrate efficacy in enhancing social skills, independence, and quality of life. Despite methodological limitations in existing studies, this review emphasizes the critical role of OT in addressing the multifaceted needs of stroke survivors. Further research should explore innovative strategies to improve community engagement after stroke.

Keywords: stroke rehabilitation, occupational therapy, community reintegration.

SOCIAL AND TECHNOLOGICAL RESILIENCE IN HEALTH PRESERVATION AND SUSTAINABLE DEVELOPMENT OF THE ELDERLY

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ABSTRACT

This paper explores social and technological resilience as key components for preserving health and achieving sustainable development in the elderly. Given the demographic changes and the increasing share of the elderly population, it is necessary to develop strategies that will enable the elderly to remain active, healthy and socially included. Social resilience involves creating supportive communities, strengthening social networks and the availability of quality health services, while technological resilience involves the use of innovations, such as digital tools, smart devices and telemedicine, to improve the daily lives of older adults. The paper analyzes how these two dimensions of resilience can contribute to reducing the risk of social isolation, improving physical and mental health, and improving the quality of life of the elderly. Challenges and opportunities associated with the implementation of these strategies are also considered, with an emphasis on ethical aspects, access to technologies and education. The conclusion highlights the importance of an integrated approach that connects social and technological aspects for the sustainable development and well-being of the elderly in the future.

Keywords: social resilience, technological resilience, elderly people, health, sustainable development.

STUDENTS PANEL

SOME ASPECTS OF INTERGENERATIONAL SUPPORT FOR GRANDPARENTS

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ABSTRACT

In this paper, we looked at intergenerational support for grandparents. We defined the concept of family and the different generations such as older, younger and sandwich generation. The importance is already evident in the fact that people have created different family units and forms through different cultures. We have found that generations differ greatly in values, ways of thinking and perception of the world. Intergenerational cooperation has many advantages such as the transmission of values, the transmission of different competences and ways of thinking. The survey questionnaire was completed by 63 women and 47 men. We found that 25 respondents, or 22.73%, never help their grandchildren with their schoolwork. We also found that 16 female respondents, or 14.55%, help their grandchildren two or more days a week. For men, we found only 4 or 3.64%. We found that 25 or 22.73% of the respondents never help their grandchildren with their schoolwork. We also found that 16 respondents, or 14.55%, help their grandchildren two or more days a week. For men, we recorded only 4 persons or 3.64%. For the question on how many years they have been married, we included the data that appeared most frequently. Many persons did not want to share their information. Most people have been married for 52 years and the least for 20 years. When writing, we hypothesised that grandmothers are more likely to help raise children than grandfathers, which was fully confirmed. The results were obtained by means of a questionnaire.

Keywords: older adults, international assistance, family, sandwich generation, grandchildren.

CERTAIN EFFECTS OF INVOLVING OLDER ADULTS IN INTERGENERATIONAL CENTERS

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ABSTRACT

This paper focuses on the area of older people's involvement in intergenerational centres... We hypothesised that older adults' involvement in intergenerational activities increases intergenerational understanding.

"Age is equated with the time that elapses from the birth of a person or the creation of something, and also as the period in human life from mature years to death" (Macuh 2019). "An intergenerational centre is not an institution, it is a network - a system of community action, it is a spatial and social concept. It enables living in a way that generations do not cause problems for each other, while at the same time creating points of contact for their architecture" (Kociper 2011). Intergenerational cooperation has positive effects, on all generations, on the younger and the older, improving health and well-being conditions, improving the well-being of the elderly, reducing the feeling of loneliness, creating a new social network, and also a sense of belonging (Macuh 2019, 104-105).

The results showed that most older adults interacted better with the younger generation after the activities, the activities reduced their prejudices towards the younger generation, they learnt from them and applied their new knowledge. Most respondents would participate in intergenerational activities again and recommend them to others.

Keywords: older adults, intergenerational centres, intergenerational relations, intergenerational activities.

SPECIFIC GENDER DIFFERENCES REGARDING NEEDS IN TERMS OF INTERGENERATIONAL SUPPORT

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ABSTRACT

Seminar assignment, investigates which gender needs more help from younger people with everyday tasks or activities. We hypothesized that women need or seek more help from younger people than men.

The so-called "third generation" are all older people who fulfilled the role of parents until the maturity of their children, and the professional role of full-time employment at work, until the full retirement period (Ramovš, 2013).

With age, many ailments grow, which torment a huge number of people and the elderly. Many are tormented by the degradation of human physical strength. Some elderly people also experience hardships and problems, because the experience of old age is manifested in the wrong way in today's society (Pečjak, 2010). The young, middle and old generations together make up the social whole. The foundation is laid on development, stability and intergenerational solidarity.

Through the seminar assignment, we came to different conclusions. One of these is that women seek and expect more help from younger people than men, who define themselves as more independent and physically fit.

Keywords: older adults, help of younger people to older people, daily tasks, independence of older people, intergenerational help.

LONELINESS THROUGH DIFFERENT ASPECTS OF (CO)LIVING

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ABSTRACT

Loneliness is a more common problem among older adults. We conclude that it has a significant impact on mental and physical health. It is associated with various factors such as retirement, loss of a partner, social isolation, change in social networks, etc. Research shows that it has a strong impact on mental health and can lead to the development of depression, anxiety and other mental disorders, which negatively affect quality of life.

The aim of this paper was to identify the impact of loneliness on older people and the factors that increase it.

Through interviews about loneliness with older adults, we found that almost everyone feels lonely at some point in their lives. Loneliness was more frequently reported by older adults living alone in their home environment. For most, the reason for loneliness is the lack of attention from family to come and see them and talk to them. They cope with loneliness by watching TV, thinking and trying to talk to their relatives as it makes them feel better. In addition, two interviewees, one lady and one gentleman, said that they did not feel lonely.

Keywords: *loneliness, older adults, loneliness prevention, causes of loneliness, consequences of loneliness.*

FEAR OF AGING AND INTERGENERATIONAL COOPERATION

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ABSTRACT

The assignment focuses on the area of fear of aging and its' connection with intergenerational cooperation. We wanted to research on how different generations perceive and experience the process of aging and death. The purpose of the assignment was to determine the basic aspects of aging, stereotypes about aging, differences in the perception of death in the past and today, and to gain insight on the experience of fear of aging and death between different generations. There were 103 respondents that participated in the survey, which were all divided into 5 age groups, depending in what generation they belong. In addition to age, we also asked respondents about gender and area of residence. Analysis of the results showed that people are more concerned about the aging process than death, which did not confirm our initial hypotheses. As many as 66% of the respondents chose that they are more worried about aging than death. It has also been shown that people who are in regular contact with the elderly do not necessarily have less fear of aging than those who are not in such contact. Therefore this did not confirm the second hypothesis. We believe that it is necessary to work on reducing stereotypes, strengthening intergenerational cooperation, and start informing all age groups on this topic, as this could prevent a negative attitude towards aging. The findings suggest that fear of aging dominates fear of death and that regular contact with the elderly does not necessarily reduce fear.

Keywords: aging, fear, gerontophobia, stereotypes, intergenerational cooperation, death.

THE ROLE OF INTERGENERATIONAL TOURISM IN CONNECTING GENERATIONS

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ABSTRACT

MG tourism is important for older adults and for grandchildren because it enables shared experiences and spending time together between different generations. That is why we were interested in some aspects of experiencing MG tourism in the paper. Above all, the influence of MG tourism on experiencing the quality of the MG relationship. In the seminar assignment, we focused on the impact of intergenerational tourism of older adults with grandchildren. We defined the term older adults, grandchildren and intergenerational tourism more precisely. In the research part of the seminar paper, we presented the aims and objectives of the research, research questions and research methodology. Intergenerational tourism of elders and grandchildren, which enables shared experiences and spending time together between different generations, especially they enjoy being with their grandchildren. It also enables connection, cooperation and at the same time provides an opportunity for education. 77 women and 14 men took part in the survey.

Keywords: older adults, grandchildren, intergenerational tourism, generations, intergenerational relationship.

INTERGENERATIONAL COOPERATION IN THE WORKPLACE

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ABSTRACT

We discussed intergenerational cooperation in the workplace and the challenges that companies face in integrating different generations into the work process. Despite the fact that it is an established concept, many companies still do not recognize the role of intergenerational cooperation as a strategic element in achieving sustainable development and long-term success. The characteristics of individual generations differ greatly, which often leads to misunderstandings, but at the same time enables valuable knowledge transfer between younger and older employees. In the role of mentoring, management support plays a major role.

Keywords: working, cooperation, mentoring.

REFLECTION OF INTERGENERATIONAL COOPERATION IN ORGANIZATIONS

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ABSTRACT

There will be more and more older adults in the world as life expectancy increases. Older adults can have both positive and negative experiences of ageing. There are many positive aspects to the increase in the older population. For example, a larger number of older adults can mean more wisdom, experience and knowledge in society, and they can also contribute to the community in different ways, such as mentoring younger generations. It is important that older people's leisure time is filled with quality activities. One possibility is intergenerational socialising. This is where people of different generations meet, socialise and exchange experiences, and it is very beneficial for them to interact in this way. This also includes socialising with grandchildren. Grandchildren have a positive influence on grandparents and make them happy. Likewise, socialising between grandparents and grandchildren leads to better mutual understanding, greater empathy and strengthens the bond between the generations. Grandparents experience positive emotions for their grandchildren, which is essential for older adults to feel good as they age. Intergenerational socialising naturally reduces the feeling of loneliness that is very common among older people, which makes it all the more important that their free time is filled with a variety of interesting activities. Intergenerational cooperation helps to create a more cohesive community where individuals help each other and share valuable knowledge.

Keywords: *grandparents, grandchildren, intergenerational socializing, intergenerational organizations, aging, socializing, kindergarten, happiness.*

LONELINESS AS THE ABSENCE OF CO-LIVING

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ABSTRACT

Loneliness is a more common problem among older adults. We conclude that it has a significant impact on mental and physical health. It is associated with various factors such as retirement, loss of a partner, social isolation, change in social networks, etc. Research shows that it has a strong impact on mental health and can lead to the development of depression, anxiety and other mental disorders, which negatively affect quality of life.

The aim of this paper was to identify the impact of loneliness on older people and the factors that increase it.

Through interviews about loneliness with older adults, we found that almost everyone feels lonely at some point in their lives. Loneliness was more frequently reported by older adults living alone in their home environment. For most, the reason for loneliness is the lack of attention from family to come and see them and talk to them. They cope with loneliness by watching TV, thinking and trying to talk to their relatives as it makes them feel better. In addition, two interviewees, one lady and one gentleman, said that they did not feel lonely.

Keywords: loneliness, older adults, loneliness prevention, causes of loneliness, consequences of loneliness.

THE INTERGENERATIONAL ASPECT OF SUPPORTING AND CARING FOR OLDER ADULTS

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ABSTRACT

Population aging has become a key demographic and societal issue in the modern world. The number of older individuals is steadily increasing, posing challenges and opportunities related to caregiving, support, and intergenerational relationships. Our society is facing these changes at both individual and societal levels, raising the important question: How we create an environment that allows for dignified living and adequate care for older individuals?

In our research paper, we focused on the intergenerational aspects of aid and care for the elderly. Specifically, we were interested in whether older individuals expect more assistance from the middle generation, and their children than the latter is willing to provide. Our hypothesis is based on the assumption that intergenerational relationships and expectations regarding assistance and care for older individuals may vary, which is crucial for shaping policies and programs that ensure proper support for the elderly in our society.

To better understand this issue, we first analyzed demographic trends in Slovenia, with a focus on the increasing elderly population. We then examined some common misconceptions and facts about aging and how they can affect the perception of older individuals.

Furthermore, we will present the results of our research, including the analysis of two surveys conducted as part of this project. These surveys will provide insights into the perspectives and expectations of both older individuals and their descendants regarding intergenerational collaboration and aid.

Ultimately, our goal is to contribute to a better understanding of how the intergenerational aspect is reflected in the assistance and care for the elderly and how it can positively impact the quality of life for all generations. At the same time, we aim to highlight the need to adapt policies and programs that support improved intergenerational relationships and ensure a dignified life for older individuals in our society.

Keywords: elderly individuals, aid for the elderly, care for the elderly, population aging, ageism, intergenerational cooperation.

SUSTAINABLE DEVELOPMENT

SCHOLARLY PANEL

EXPLORING AWARD-WINNING MULTISENSORY DESIGNS THAT BRING THE SCIENCE OF IMMUNOLOGY AND COMMUNICATIONAL CULTURES TO LIFE FOR BLIND, LOW VISION, AND DIVERSE NEEDS AUDIENCES WITH ARTS AND AI

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Erica Tandori, PhD, Researcher
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ABSTRACT

Inspired by deep learning techniques for LLMs, the multimedia art project Orange Feather Alert fosters cognitive training to proactively prevent harm and hate speech through self-regulation. By applying principles of self-supervised learning to behavioral changes via simple exercises, such as thought experiments, it promotes emotional control and a deeper understanding of meaning and its symbolic expressions in interaction. such as The Orange Feather symbolizes the Austrian SDG-Awarded Orange Feather Initiative, aligned with UN Women's Orange the World campaign, demonstrating innovative approaches to addressing communicational violence.

Additionally, inclusive, user-centered LLM design in multilingual settings can support mental health by reducing stressors through linguistic shifts that enable emotional distance and perspective-taking.

Multilingual settings improve metacognitive awareness and resilience by fostering adaptability to diverse cultural and linguistic contexts. This principle is central in applying multilingual AI tools to reduce stress and enhance user engagement

The second part of the presentation highlights the groundbreaking work of Dr. Erica Tandori (Monash University) and Dr. Stu Favilla (Swinburne University), co-creators of the award-winning Monash Sensory Science exhibitions. From tactile art and data sonification to interactive displays and immersive science books, their designs transform complex topics like immunology into accessible and engaging experiences for underrepresented communities, fostering inclusion and broadening participation in science discourse.

Keywords: cognitive training, self-regulation, inclusive design, multilingual AI, sensory science.

CHALLENGES AND OPPORTUNITIES IN DEVELOPING ESG STRATEGIES: A PATH TO CARBON NEUTRALITY ALIGNED WITH EU GUIDELINES

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ABSTRACT

ESG (Environmental, Social, and Governance) strategies have emerged as a cornerstone for corporate sustainability, driven by the urgency of achieving carbon neutrality by 2050 in line with European and global directives. This paper explores the multifaceted challenges organizations face when designing and implementing ESG strategies, emphasizing their alignment with EU regulations such as the Corporate Sustainability Reporting Directive (CSRD) and the EU taxonomy. These frameworks aim to standardize sustainability reporting and ensure the integration of ESG principles into core business practices. The study highlights key obstacles, including the complexity of collecting, analyzing, and reporting reliable environmental and social data, as well as ensuring transparency and regulatory compliance. Additionally, it addresses the difficulties in establishing measurable environmental indicators and integrating them into decision-making processes. The lack of standardization in ESG metrics across industries further complicates efforts to meet stakeholders' expectations. The authors present examples of best practices from organizations that have successfully navigated these challenges, offering insights into strategies for fostering collaboration among stakeholders, including management, employees, and supply chain partners. The findings underscore the importance of a holistic approach that balances environmental goals with social and governance considerations, ensuring long-term business resilience. This paper provides actionable recommendations and practical insights for organizations (universities, large companies, SMEs) striving to transition towards sustainable business models. It serves as a valuable resource for companies seeking to not only comply with regulatory demands but also to create meaningful impact through their ESG strategies, contributing to global sustainability goals.

Keywords: ESG strategy, sustainability, carbon neutrality, EU directives, CSRD, transparency, best practices.

THE IMPACT OF LEADERSHIP ON SUSTAINABLE SOCIAL RESILIENCE – A NORMATIVE APPROACH

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ABSTRACT

Achieving sustainability has great impact on current and future generations. The many perspectives on sustainability, e.g., ecological, societal, political, technological, and legal perspectives, should not be considered solely in isolation, but also in an international, transdisciplinary, inter- and intragenerational dialogue. The topic that connects all perspectives and can serve as an umbrella for them is leadership. Leadership is of such importance because of the global scope of the task we must solve: stopping climate change. At the same time, we can easily identify developments on our planet that make it more difficult to achieve this goal, e.g. the rising energy demands caused by rapid technological developments. To solve this dilemma, innovations with a qualitative impact on sustainability are needed. Innovations and their quality are the results of human actions. Moreover, research on innovation shows that innovation requires leadership. Leadership that fosters innovation quality has a positive impact on sustainable social resilience. Leadership, in turn, can be learned, for example, in leadership education that takes place in higher education. Therefore, this contribution elaborates on the crucial elements of leadership education in higher education. Its purpose is to stimulate a broader discussion and call for action that results in sustainable social resilience.

Keywords: leadership, leadership education, innovation, sustainability, humanism.

DIGITALIZATION AND SUSTAINABILITY AWARENESS IN CROATIAN MICRO AND SMALL ENTERPRISES: BUILDING RESILIENCE WITHOUT MANDATORY REPORTING

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ABSTRACT

Amid growing global demands for sustainable practices, this research explores how micro and small enterprises (MSEs) in Croatia engage with sustainability, despite the absence of mandatory reporting requirements. As communities face environmental and demographic challenges, understanding how MSEs integrate sustainability practices is essential for fostering resilience and supporting their development. This study employs a mixed-methods approach, combining quantitative surveys and qualitative interviews, to assess the barriers and opportunities MSEs face in implementing sustainable practices. The findings provide valuable insights for policymakers and support organizations aiming to encourage sustainability in the small and medium business sector, illustrating how facilitates transparency and operational resilience. Ultimately, this research contributes to a broader understanding of sustainable development by demonstrating how voluntary reporting can enable MSEs to play more active role in the resilient community building and environmental responsibility.

Keywords: sustainability reporting, micro and small enterprises (MSEs), digitalization, resilience, sustainable development.

URBAN MOBILITY MEASURES FOR HEALTHIER FUTURE: ADAPTING MADRID'S LOW EMISSION ZONES MODEL FOR SOFIA

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ABSTRACT

This study explores the intersection of sustainable mobility, development, and public health in the urban environment through the implementation of low-emission zones (LEZs). Focusing on Madrid's experience since 2018, it examines the contribution of LEZs to fostering the transition to greener transport modes, the expansion of public transport networks and improving public health. The research aimed to map out the steps for transferring these benefits to the city of Sofia in order to help transform it into a more resilient and sustainable city. A case-study approach was employed, analysing the urban, social and economic elements that influence the success of the implementation of LEZs in Madrid. Data on urban mobility patterns, socio-economic factors, air quality, noise pollution and land use was examined using time-series analysis, Geographic information systems (GIS) for spatial and network analysis, alongside measurable indicators. Finally, the research adapts the findings to Sofia, considering the specific local urban, regulatory, social and economic challenges by developing a model with guidelines for implementation. The introduction of LEZs in Sofia has the potential to significantly improve public health and create more resilient urban communities by enhancing the use of cleaner transportation alternatives and promoting sustainability and adaptability to climate change.

Keywords: urban mobility, sustainability, low-emission zones, public health, resilience.

ECOSYSTEM SERVICES AND HUMAN WELL-BEING: CASE STUDY OF RIVER RIŽANA

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ABSTRACT

Humans directly depend on nature and its services for a range of our economic and livelihoods activities. Over the past 50–60 years of extensive use and exploitation, natural resources have become severely limiting. Despite wider recognition of human interdependence with the rest of nature, we continue to fail to adequately value ecosystem services. Ecosystem Services approach can shift the focus to human well-being while remaining within biophysical planetary boundaries. This approach applies three fundamental principles: sustainable scale, efficient allocation, and fair distribution, which are vital for sustainable economies and societies. Transforming our economies to appropriately consider planetary limits, use of local knowledge of sustainable living, and realizing the importance of ecosystem services will contribute to developing economies that are resilient, and that enhance sustainable human well-being. We provide the case study of river Rižana demonstrating how the ecosystem services approach offers a holistic perspective of riverine ecosystem services role in the local development and economy. The case study describes the main results of the analysis of the riverine ecosystem services and connected socio-ecological system. By protecting the ecosystems of the river Rižana, we can ensure the long-term supply of ecosystem services and the well-being of local communities.

Keywords: ecosystem service, river Rižana, well-being.

COMMUNICATIVE SPACE CREATION AND STRUCTURAL CONTEXT IN HIV/AIDS PREVENTION

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ABSTRACT

Based on a case study approach, this study has chosen an NGO which is actively involved in the implementation of HIV/AIDS disease prevention activities in the Northern Peninsular Malaysia. This study aims to define a communicative space from the perspective of the NGO, and examine the physical infrastructure and resources that are available for the NGO to support the communicative space in serving the HIV/AIDS community and to prevent the transmission of HIV/AIDS disease. The data are collected by interviewing the members of the NGO and those participated in their activities, and analysed thematically based on the elements of the culture-centred approach. The findings of the study mainly provide insight on how NGO can play the role in the creation of communicative space for vulnerable community, and examine the structural context of the communicative space especially in terms of accessibility, technology, and safety measures in serving the HIV/AIDS community and to prevent the transmission of HIV/AIDS disease.

Keywords: *communicative space, culture-centred approach, HIV/AIDS community, non-governmental organisation, health communication.*

THE IMPACT OF EU REGULATIONS ON STAKEHOLDER ROLES IN BALTIC FOOD SYSTEMS

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ABSTRACT

The food systems of Estonia, Latvia, and Lithuania are increasingly influenced by European Union (EU) regulations, which set frameworks for food safety, sustainability, and fair market practices. While these regulations aim to promote uniformity and sustainability across member states, their impact on stakeholders in the Baltic food systems remains under-explored. This study investigates the integration of stakeholders in the implementation of EU sustainability policies within Baltic food systems, emphasising the Common Agricultural Policy (CAP) 2023–27. Through the analysis of EU and national strategic documents and stakeholder representation data, the research highlights the roles of diverse actors, including policymakers, farmers, organisations, and consumers. Results reveal variations in stakeholder engagement across Lithuania, Latvia, and Estonia, emphasising challenges and opportunities in achieving sustainability goals. By identifying gaps in multi-level governance, the study offers recommendations for effective stakeholder collaboration and outlines directions for future research.

Keywords: Baltic food systems, Common Agricultural Policy, food policy, sustainability labeling, agricultural policies, rural development, policy implementation.

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HEALTH SCIENCES

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SCHOLARLY PANEL

ON THE VERGE TOWARDS NON-SURGICAL ABLATIVE THERAPY IN A FUTURE DEVELOPMENT OF MINIMAL-ACCESS PROCEDURES

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ABSTRACT

Open surgery with laparotomy was golden standard in gynecological surgery for decades. Following minimal-access techniques have reduced the iatrogenic operative trauma. On the way to tailored and individualized medical therapy, the next step would be non-surgical ablative therapy of gynecological tumors. Omitting the entrance trauma to the body, high intensity focused ultrasound (HiGu) combines diagnostic localizing ultrasound (US) with therapeutic US; the intrath-erapeutic magnetic resonance location is not necessary anymore. Even in the therapy of larger or multiple tumors, the patient is in conscious sedation. The reported efficacy seems adequate and the adverse effects are acceptable. If further scientific evidence shows a comparable efficacy as in surgery, this innovative technique will be another tool in advancing medical knowledge "for all the people".

Keywords: gynecological tumor, minimal-access technique, high intensity focused ultrasound.

SUSTAINABLE DEVELOPMENT OF PRACTICES AND METHODS AIMED TO PREVENTING OBESITY AMONG YOUNG ADULTS: EDU-FIT PROJECT

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ABSTRACT

Poor diet and physical inactivity directly affect millions of people. Up to 7% of EU health budgets are spent yearly on diseases linked to obesity with still aprx. 2.8 million deaths per year from causes associated with overweight and obesity. Within higher education study programs, students are rarely offered any curricula or didactic materials on problems associated with obesity and overweight. EDU-FIT: INCLUSIVE SOCIAL EDUCATION FIT FOR HEALTHY LIFE-STYLE - PREVENTING OBESITY IN YOUNG ADULTS project is a collaborative effort involving partners from five countries: Croatia, Slovenia, Portugal, Slovakia, and Norway. EDU-FIT is financed by the European Union and intends to enhance student well-being through accessible and sustainable online resources aimed at raising awareness about the importance of developing healthy lifestyle habits and creating sustainable methods and practices to prevent obesity. The project's outcome is a multi-lingual digital handbook which will be used as a guideline for developing healthy lifestyle habits and preventing obesity among students and the implementation of an elective innovative curriculum on an active lifestyle and prevention overweight in existing study programs to create, inform and disseminate policies to tackle obesity among young adults.

Keywords: obesity, preventing, sustainability, European Union, EDU-FIT.

HOW RESILIENT IS THE CONCEPT OF „RESILIENCE“? EVOLUTION OF REGIONAL ECONOMIC RESILIENCE CONCEPT IN RESPONSE TO THE COVID-19 PANDEMIC

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ABSTRACT

COVID-19 global pandemic has caused an unprecedented shock on global economies, triggering renewed attention to the concept of regional economic resilience. Before the pandemic, the concept was mostly applied researching the response to financial crises, natural disasters and structural changes of economies. The financial crises of 2008 was important turning point, when regional economic resilience research has started growing exponentially. However, COVID-19 has brought to light unique challenges, necessitating a reassessment of the traditional resilience frameworks. Unlike the earlier challenges, the pandemic involved both sudden economic shut-downs and prolonged uncertainty, affecting various regions unevenly depending on their economic structures, institutional capacities, and pre-existing vulnerabilities. The systemic nature of COVID-19 pandemic showed the vulnerability of different sectors, highlighting that the regional economies have to apply diverse policies.

By focusing specifically on studies that address regional economic resilience during the COVID-19 pandemic, the paper will use methodological approach of scoping reviews to explore the dominant theoretical and methodological foundations, as well as empirical applications, of economic resilience in the context of regional economies during COVID-19 pandemic. It will also reveal the key research topics as well as conceptual and theoretical contributions of studies focusing on regional economic resilience under the COVID-19 pandemic.

Keywords: regional economic resilience, COVID-19, scoping review.

CARE MANAGEMENT IN ATRIAL FIBRILLATION PATIENTS WITH MULTIMORBIDITY

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ABSTRACT

Atrial fibrillation (AF) is a supraventricular arrhythmia characterized by disorganized, high-speed atrial electrical activity. It is the most common heart rhythm disorder in the population and its frequency increases with advancing age. Data show that more than half of the adult population over the age of 60 worldwide experiences multimorbidity, the coexistence of AF and more than one other disease. Multimorbidity is typically defined as the coexistence of two or more diagnosed long-term diseases. With the aging of the population and the prevalence of chronic diseases, multimorbidity has become very important. Therefore, understanding the relationship between multimorbidity and AF is crucial to developing more effective healthcare strategies to improve patient outcomes. The EHRA-PATHS project was implemented to improve the detection of comorbidities and better define multimorbidity in AF patients. The overall goal of EHRA-PATHS is to develop interdisciplinary care pathways for elderly, multimorbid AF patients through patient-centered and multidisciplinary approaches. Effective interdisciplinary care pathways implementation designed to address the unique challenges faced by multimorbid AF patients can lead to better clinical outcomes, lower healthcare costs, and higher patient satisfaction. This study aimed to review current care management applied to AF patients with multimorbidity.

Keywords: atrial fibrillation, care, multimorbidity, interdisciplinary, nursing.

LINKING CASE MANAGEMENT IN SOCIAL WORK AND HEALTHCARE VIA BUSINESS PROCESSES

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ABSTRACT

Case management is generally seen as a complex intervention in healthcare and social work. Case management emerged in 1960's as a response to the de-institutionalisation, concerning people with severe mental health problems who needed both medical and social care, or services. In current understandings, case management should integrate both medical and social aspects, yet integration is not always achieved in practice. The same reverberates in research – case management is addressed both in medical and social work literature, but the approaches are different. Regrettably, some neighboring disciplines develop rather separately, so exchange of information and mutual learning is minimal, or even missing. Intention to overcome this obstacle leads to the rationale of this paper – to explore the existent links between case management in social work and healthcare, and to suggest possibilities for better linking of these two neighboring disciplines. Our proposition is that desired integration could be achieved via applying a rather novel process view. We start with a semi-systematic review of relevant literature, in leading academic databases (Web of Science, Scopus, etc). We hope that qualitative analysis of findings will allow to synthesize recommendations for further development and research directions.

Keywords: case management, social work, healthcare, business process.

RESPIRATORY INDICATORS AND MANUAL DEXTERITY IN FUTURE THERAPISTS AND DANCERS

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ABSTRACT

Background: Respiratory indicators and manual dexterity are important to identify functional limitations of posture control and movement precision. These skills are important both in the work of future therapist and in performing dance figures.

Method: 107 students: 55 future therapists (T) with mean BMI $21,35 \pm 2,51 \text{ kg/m}^2$ (5 men; 50 women) and 52 dancers (D) with mean BMI $21,64 \pm 1,64 \text{ kg/m}^2$ (13 men; 39 women) were included in the analysis. Maximum inspiratory pressure (MIP), maximum expiratory pressure (MEP), sniff nasal inspiratory pressure (SNIP) were measured using the MicroRPM device. Circumferential chest mobility (CM) and Back scratch (BS) measurements were performed and manual dexterity with Purdue Pegboard Test (PPT) including 4 trials: Preferred hand (PH), Nonpreferred hand (NPH), Both hands (BH), Assemblies (AS).

Results: Normative results were found in: MIP 60 %, MEP 18,18 % SNIP 58,18%, CM 100%, BS 98,18 %, PH 32,72%, NPH 9,09%, BH 10,91%, AS 18,18% of group T; MIP 46,15%, MEP 23,08%, SNIP 25%, CM 100%, BS 96,15%, PH 50%, NPH 42,31%, BH 28,85%, AS 51,92% of group D.

Conclusions: The mobility and flexibility of the chest in the examined students were within the norms. However, it is advisable to introduce respiratory muscle training and dexterity training into academic programs especially for future therapist.

Keywords: students, respiratory muscle testing, chest expansion test, Back Scratch, Peg Purdue Test.

METHODOLOGY FOR LINGUISTIC AND PHONETIC ASSESSMENT OF PEOPLE WITH COMMUNICATIVE DISORDERS ENROLLED IN THERAPY USING ASSISTIVE TECHNOLOGIES

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ABSTRACT

The acoustic measurements, phonetic and linguistic analyses are proved instruments for studying the disordered speech specificities, differentiating disordered and normal speech, and even measuring therapy effectiveness.

The current study presents a methodology that includes phonetic and linguistic assessment of disordered speech of people enrolled in Robot assisted therapy and VR using quantitative and qualitative measurements. A set of parameters as speech activity duration, verbal reaction time, voice and speech parameters related to intelligibility as intensity, pitch, speech rate, pausing are planned. Meanwhile, quality speech observations are included, such as correctness of articulation and mispronunciation, as well as grammar competencies, including pragmatic ones, taking into account that speech duration and speech intelligibility are not always correlating.

The scenarios implemented in the therapy invented particularly for the experiment include different speech activities with a specific linguistic structure requiring certain phonological and grammatical competencies.

The proposed methodology includes a detailed observation and phonetic-linguistic assessment of the speech of persons enrolled in the therapy at all linguistic levels.

Keywords: methodology, linguistic-phonetic assessment, disordered speech, robot assisted therapy, VR.

BIOCHEMICAL ANALYSES IN PATIENTS WITH RESPIRATORY DISORDERS DURING THE COVID-19 PANDEMIC AND POST-COVID PERIOD

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ABSTRACT

Introduction: The COVID-19 pandemic has presented significant challenges for individuals with chronic respiratory diseases, affecting their biochemical profiles and clinical outcomes. Understanding these changes is essential for optimizing patient management. This study aimed to assess biochemical changes in patients with chronic respiratory diseases during and after COVID-19, focusing on inflammatory, metabolic, and renal markers.

Methodology: A retrospective clinical study and systematic literature review were conducted. Biochemical parameters including CRP, D-Dimer, AST, ferritin, ALT, glycemia, urea, and creatinine were analyzed. Statistical analysis was performed to compare levels during and after COVID-19. Study sample: 75 patients diagnosed with COPD, bronchial asthma, or chronic bronchitis and also COVID-19 were included. Data were collected from private laboratories in Tirana during 2021-2022 period.

Results: Significant increases were observed in CRP, D-Dimer, AST, and cholesterol during COVID-19, with no significant changes in ferritin, ALT, glycemia, urea, or creatinine levels after Covid-19.

Conclusions: This population study differs from general populations, showing distinct biochemical changes likely due to chronic respiratory pathologies. Recommendations include regular bio-marker monitoring, personalized metabolic control, and integrated care approaches.

Keywords: biochemical analyses, covid-19, post covid.

BIG DATA INSIGHTS INTO OBESITY PREVALENCE AND SENSITIVE HEALTHCARE COMMUNICATION: EDU-FIT PROJECT

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ABSTRACT

This research explores heterogeneous health data to better understand the prevalence of obesity, a growing global issue highlighted by the World Health Organization (WHO). Obesity affects diverse populations, including adults, children, and particularly students, who face unique challenges such as relocation, stress, inactivity, poor sleep, and unhealthy diets. These factors contribute to physical, mental, and social health concerns.

A key aspect of addressing this issue is effective terminology in sensitive communication, used in healthcare and everyday environment. The effective communication can build trust in and influence the outcome, largely depending on the terminology used in healthcare and everyday environment.

The research utilizes Big Data analysis from two primary sources: i) publicly available data on the Eurostat portal and ii) questionnaire among 1,200 students about preferred terminology in sensitive communication in Slovenia, Croatia, Portugal and Slovakia.

The study sheds light on obesity prevalence across EU countries and identifies language preferences in healthcare and everyday settings. The findings aim to inform the development of culturally adaptable communication strategies on obesity, enhancing understanding and promoting better outcomes in diverse environments.

The research is part of the EU-funded project "Inclusive Social Education Fit for a Healthy Lifestyle: Preventing Obesity in Young Adults" (EDU-FIT).

Keywords: Big Data, obesity, terminology, healthcare, EU data, multilingualism, information, sensitive communication.

FACTORS INFLUENCING THE ADOPTION OF HEALTHCARE INNOVATIONS: PERSPECTIVES OF HEALTHCARE WORKERS

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ABSTRACT

The acceptance and application of healthcare innovations are crucial for improving the quality of healthcare services. Therefore, it is important to understand how healthcare workers perceive these new technologies. This study aims to explore healthcare workers' attitudes towards the latest healthcare technological developments, with a focus on the factors influencing the perceived importance of these innovations.

A quantitative cross-sectional study was conducted using a purposive, non-random sampling method among healthcare workers (n=211) with a questionnaire developed based on a literature review. Descriptive statistical analysis, correlation, and cross-tabulation analysis ($p < 0.05$) were performed using IBM SPSS 26.

The study found that the number of years spent in healthcare affects the importance healthcare workers place on knowing the latest technological developments ($p = 0.034$). Additionally, the job role of healthcare workers also influences this perception ($p = 0.003$). The majority of respondents (70.6%) were employees, and most (65.5%) follow the latest healthcare technological developments.

The results indicate that the longer healthcare workers have been in the field, the more they value knowing the latest technological developments. Nurses, in particular, tend not to prioritize this knowledge. To continuously improve healthcare quality, it is essential to enhance trust in healthcare innovations through effective communication.

Keywords: healthcare innovations, technological developments, healthcare workers' attitudes, professional experience, job role.

AN ECOLOGICAL APPROACH TO STRUCTURAL SOCIAL DETERMINANTS OF DRUG-RELATED HEALTH HARMS IN EUROPE

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ABSTRACT

Having significantly evolved over the last decades, international drug markets are nowadays characterised by the high availability of a broad range of more potent and potentially toxic illicit psychoactive substances than in the past. In Europe, this evolution has led to changes in patterns of drug use, with polydrug consumption, increased use of cocaine, crack cocaine and novel psychoactive substances (NPS) as the most salient, concerning trends. Concomitantly, socioeconomic profiles of people who use drugs that develop drug-related health problems have also evolved. Affluent, socially integrated people remain relatively unfamiliar to drug services, whereas marginalised populations are often exposed to more harmful substances or routes of administration. While economic recessions have a potential impact on patterns of drug use through different channels, growing socioeconomic exclusion observed during the last decade have relatively worrying impacts on public health. Based on a scoping review of scientific and grey literature, this presentation will shed light into the upstream socioeconomic and policy factors associated with drug-related health harms. It will also discuss long-view challenges to public health associated with drug-related outbreaks or epidemics in a context of rising poverty and social inequalities across Europe.

Keywords: public health, drug use, social inequalities.

ERGONOMICS FOR WORK-LIFE BALANCE

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ABSTRACT

This paper discusses the role of ergonomics in improving work-life balance by critically analysing the literature and examining case studies from different industries. It is widely recognised that ergonomics, in designing workplaces to suit human capabilities, eliminates discomfort and ensures safety; it also increases productivity and reduces the causes of absenteeism. The science of ergonomics has evolved from its industrial context to the modern office, indicating its growing importance in the workplace. Using a secondary analysis of case studies in different settings, this study has demonstrated that the results of ergonomic interventions have reduced musculoskeletal disorders while increasing motivation and mental well-being. The results suggest that an ergonomically well-designed workplace reduces mental fatigue and stress while improving mood and energy levels outside the workplace, which in turn promotes a better work-life balance. In addition, it was emphasised that an ergonomic workplace must be set up in the home office to avoid physical discomfort and mental stress. This study therefore concludes that ergonomics should be at the centre of human life and must be seen as important for creating a good work-life balance and should not be limited to the role of increasing productivity and profitability.

Keywords: ergonomics, work-life balance, workplace design, musculoskeletal disorders, employee well-being.

EVALUATION OF KNEE PATIENTS WITH OSTEOARTHRITIS

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ABSTRACT

Osteoarthritis is a degenerative joint disease that causes joint dysfunction due to pain and limitation of movement. The purpose of this study is to evaluate knee pain in patients with osteoarthritis. This study is cross-sectional. 15 patients with osteoarthritis hospitalized in the Shkodra Regional Hospital in the Department of Physiotherapy for patients with osteoarthritis were questioned to assess their pain. Pain was assessed using a standardized questionnaire Roos EM, Lohmander LS. Knee damage and osteoarthritis outcome (KOOS): from joint damage to osteoarthritis. The study period is January-May 2024. The issue taken in the study is a pathology of the knee, osteoarthritis. The form was closed and scored questions. The period of completing the questionnaire January-May 2024. The supporting literature used for this paper was generated from the sites Google Scholar, pubmed, ncbi, Springer.com, researchgate.net through keywords. The questionnaire data were processed with the Microsoft Office Excel 2010 program. From the collected information, conclusions were drawn regarding the changes they have now in their daily life, difficulties during the activity, as well as the psychological side. From this study it was found that patients show more moderate weekly pain. It turned out that they experience pain sitting or lying down. They have difficulty standing and rotating the knee.

Keywords: evaluation, osteoarthritis, pain, patient, physiotherapy treatment.

TRAINING PHARMACY STUDENTS BY ACTIVE LEARNING BASED ON REAL-LIFE CASE STUDIES

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ABSTRACT

The always more relevant role of the pharmacist brings new challenges and opportunities requiring constantly updated and innovative didactics at the Pharmacy degree course. To favor the acquisition of pharmacology knowledge, dispensing and counseling skills, a role-play of clinical cases to be likely faced by community and/or clinical pharmacists is organized at the University of Pavia at their 4th year of curriculum. Small groups of students act as patients and/or caregivers, and pharmacists; each team has an appropriate time to discuss and create a real life-based case starting from pharmaceuticals/medicines provided by the teacher. Each scene is played and possibly recorded, then discussed and evaluated on site, in the classroom, by a multidisciplinary "jury" composed by pharmacologists, physicians, pharmacists, whose variegated experiences offer useful opportunities for dispensing optimization, knowledge improvement (in pharmacology and beyond), understanding physicians' choices and possibly detecting erroneous prescriptions, enhancing personalized medicine as well as adherence to therapy.

This practice, interactive activity in realistic and safe contexts aims to favor critical thinking, problem solving, awareness of real-life situations (e.g. fragile patients, polypharmacotherapy, SALA drugs, low adherence) in disease prevention and health care in Pharmacy students.

Keywords: case study, pharmacy education, multiprofessional experts, role play, teamwork.

THE ROLE OF THE ONCOLOGY PHARMACIST

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ABSTRACT

Oncology pharmacists have the training and expertise that places them in an optimal position to provide evidence-based care to the patient with cancer. They have strong knowledge of oncology therapeutics; safe preparation, administration, and disposal of cancer therapies; and supply, cost, and reimbursement for cancer therapies. This knowledge allows them to not only be an integral part of the cancer care team that can ensure a current and accurate medication list, monitor the effectiveness and toxicity of medications, and identify and manage drug interactions, but also play a key role in the education of other health care providers, patients, and caregivers; and assist with developing collaborative institutional guidelines and practice-based decisions. As the care of patients with cancer continues to be challenged with high-cost therapies, medication shortages, and regulatory requirements, the oncology pharmacist is heavily relied on to provide support for the clinical team to improve overall cancer care and patient quality of life. Studies evaluating the value of the oncology pharmacist are associated with a reduction/prevention of medication errors, cost-savings, higher patient and provider satisfaction, and the ability to increase patient volume by decreasing time physicians are spending with patients. Oncology pharmacists have demonstrated they improve patient care outcomes.

Keywords: clinical pharmacy, oncology.

IMPROVING QUALITY OF LIFE IN OLD AGE WITH OXYGEN-OZONE THERAPY

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ABSTRACT

Oxygen-ozone therapy is a medical practice that is currently finding broad and promising applications in biomedicine and clinical settings. Ozone can modulate the immune responses of the subject, promoting anti-inflammatory mechanisms of paramount importance, such as the pathway Nrf2/HO-1/CO, capable of inhibiting NF-kB and eliciting the skewing M1/M2, even reducing autoimmunity by promoting CD25+Foxp3+ Treg cells, and aiding in tissue repair and remodelling. Many major disabling conditions typical of old age, such as musculoskeletal and rheumatologic diseases and even degenerative disorders, are well-suited targets for oxygen-ozone therapy. This therapy, therefore, complements pharmacology, supporting a healthier and more fulfilling aging process and leading to a "healthy aging" process, which enabled people to live in wellness and safety. This speech will address the state of art of oxygen-ozone therapy on these issues, as regards the way with which ozone works in the human body.

Keywords: ozone, ozone therapy, biochenistry, mechanisms of action, SIOOT.

EXPERT PANEL

RISK FACTORS LEADING TO MEDICATION ERRORS

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ABSTRACT

Introduction: Recognizing errors that may occur in medication handling is key to preventing adverse consequences for both the patient and the healthcare professional. The purpose of the study was to determine the views of the employees of the Murska Sobota General Hospital on the risk factors that lead to possible errors, strategies for reducing them, and the employees' familiarity with the adverse event reporting system.

Methods: For the theoretical part of the assignment, a qualitative work methodology was used, with the help of searching for data on the mentioned topic, with the help of domestic and foreign databases. For the research part, we conducted a cross-sectional epidemiological survey among the employees of the Murska Sobota General Hospital. The data were processed using Microsoft Word, Microsoft Excel and IBM SPSS 22 computer programs.

Results: The results of the research showed that the participants in the research attributed the biggest risk factor for the occurrence of errors to the illegible record of therapy on the temperature sheet. The following error reduction strategies were identified: compliance with the 10P rule, adequate work spaces and familiarity with the system for reporting adverse events. They believe that an electronic temperature sheet would help reduce errors, especially in terms of readability.

Discussion: As in other hospitals, healthcare professionals at this facility want a safe, high-quality, non-judgmental work environment. They are also familiar with the error reporting system. There are opinions that it is necessary to talk about errors, because in this way fears about reporting errors about adverse events in connection with the handling of medicines are reduced.

Keywords: medication handling, errors, causes, nurses, error reporting.

SPORTBRIDGE: PROMOTING ACTIVE AND INCLUSIVE COMMUNITIES

Maurizio Tremul, Expert

Unione Italiana, Italia

Luka Kovic, Expert

Association BOR, Italy

Luka Šlosar, PhD

Association Movement for the Brain, Slovenia

ABSTRACT

Introduction: The SportBridge project (ERASMUS-SPORT-2024-SSCP; GA: 101183843) addresses the challenges faced by minority communities in accessing quality sports programs. Despite legal protections, these communities often encounter barriers due to a lack of skilled professionals with the necessary language and sports expertise. SportBridge aims to use sports as a vehicle to celebrate cultural diversity, promote inclusion, and break down barriers for individuals with fewer opportunities.

Methodology: The project will develop a culturally-responsive physical activity program tailored to minority populations, incorporating training for coaches and instructors in cultural competency. It aims to establish an inclusive sports association for the Italian communities in Slovenia and Croatia to foster diversity and create job opportunities. Additionally, an online VLOG-tool will be launched, showcasing collaborative sports-games in Italian, Slovenian, and Croatian to enhance social inclusion.

Results: SportBridge anticipates increased participation in sports among underrepresented communities, improved motor skills and health in children, and stronger social cohesion. The initiative aims to produce skilled professionals, reduce inequalities in sports, and promote intercultural communication and multilingualism through non-formal learning opportunities.

Conclusion: By bridging cultural gaps through sports, SportBridge supports European-values of equality and inclusion, fostering active, healthier, and more connected communities while enhancing professional opportunities in the sports sector.

Keywords: cultural diversity, inclusion, health promotion.

STANDARD FOR RISK ASSESSMENT AND PREVENTION OF PRESSURE INJURY

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ABSTRACT

A pressure injury is defined as localized damage to the skin and/or underlying tissue, as a result of pressure or pressure in combination with shear. Typically they occur in a person confined to bed or a chair. Risk assessment is a central component of clinical practice and a necessary first step aimed at identifying individuals who are susceptible to pressure injuries. Assessment of pressure injury risk should then inform the second step – the development and implementation of an individualized management plan to mitigate modifiable risk factors and prevent pressure injury development. Factors that put an individual at risk of pressure injuries are activity and mobility limitations, skin status, nutrition indicators, moisture, sensory perception limitations, older age, general and mental health status. Interventions for prevention of pressure injuries are preventive skin care, nutrition, repositioning and mobilization. Research associated with pressure injury prevention and treatment has grown exponentially over the past two decades, as has the commitment by policy developers, educators and healthcare administrators to promote and implement best practice. However, there is still a gap between research and practice.

Keywords: pressure injury, decubitus, risk assessment, prevention, nursing practice.

EMPOWERMENT OF PARENTS OF CHILDREN WITH AUTISM SPECTRUM DISORDERS: THE EARLYBIRD PLUS PROGRAMME

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Špela Fajdiga Bratina, Expert

Ana Kastelic, Expert

Marta Macedoni Lukšič, Assistant Professor
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ABSTRACT

The EarlyBird Plus (EBP) programme represents one of the few approaches for empowering parents of children with autism spectrum disorders (ASD), whose content includes evidence-based elements. The aim of the quantitative study was to examine the progress of parents involved in the EarlyBird Plus programme using the Autism Parent Questionnaire (APQ) across three content areas: knowledge of ASD, use of support strategies (communication and interaction with the child and management of behavior of children with ASD), and stress management (moving forward, optimism, confidence in parenting, perception of support, how autism affects their lives and satisfaction of the needs of all family members). Data was processed using the SPSS 29 statistical programme, wherein a non-parametric test for dependent samples (Friedman or Wilcoxon test) was used. The results showed statistically significant differences in all three areas. In the future, it would be meaningful to extend the study by examining the broader context of the effectiveness of the programme, for example, through the assessment of the adaptive behavior of a child with ASD, the assessment of parental behavior, further monitoring of the programme's effectiveness, and the examination of knowledge transfer to other environments.

Keywords: EarlyBird Plus programme, empowerment of parents, children with autism spectrum disorders.

WITH THE DENVER II TRANSPLANT TEST TO DATA ON THE DEVELOPMENT OF CHILDREN IN THE FIRST YEAR OF AGE FROM 2015-2019

Mateja Škof, Lecturer

Nataša Vidnar, Lecturer

Šefik Salkunić, Lecturer

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ABSTRACT

Theoretical background: In the article, we presented the development of a one-year-old child and what the milestones should be for a one-year-old child. We wanted to present the Denver II screening test and find out whether the development of a one-year-old child changes with the help of the Denver II screening test in the period between 2015 - 2019.

The method: The research part of the article is quantitative, which means that we drew data from the Denver II screening tests. Data were collected by randomly selecting 150 children who had already completed the Denver II screening test. We chose the period between 2015-2019. We collected data from 10.07-11.09.2023.

Result: The results of the research showed that there is a noticeable difference in the development of a one-year-old child between 2015-2019. The most problems between 2015-2019 were detected in the field of fine motor skills and in the field of socialization. In the research, the data showed that girls failed more screening tests than boys.

Discussion: Preventive systematic examinations are also important for the early detection of a child's development and are essential, as the causes of abnormalities can be discovered much earlier and in some children at the appropriate time and can be aimed at treating and improving problems. The inclusion of the Denver II screening test is crucial, as is the performance of the test performed by a nurse or health worker.

Keywords: child, Denver test II, child development.

AACN STANDARDS FOR HEALTHY WORK ENVIRONMENT IN ICU

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ABSTRACT

Each day, medical errors harm patients and families who are cared for in thousands of health care settings. Work environments that tolerate ineffective interpersonal relationships and do not support education to acquire the skills needed to prevent harm perpetuate these unacceptable conditions. An intensive care unit (ICU) is a special department of a hospital where are treated patients with severe or life-threatening illnesses and injuries, which require constant care and close supervision from life-support equipment and medication in order to ensure normal bodily functions. Acute and critical care nurses care for some of the most vulnerable patients—that's why they need to be at their best. Research shows that a healthy work environment can lead to more engaged nurses, decreased burnout, lower turnover and better patient care. The standards for establishing and sustaining healthy work environments are skilled communication, true collaboration, effective decision making, appropriate staffing, meaningful recognition, authentic leadership. Compelling evidence confirms that healthy work environments are essential to ensure patient safety, enhance staff recruitment and retention, and maintain an organization's financial viability.

Keywords: staffing, patient safety, intensive care unit, healthy work environment, critical care skills.

STUDENT PANEL

TREATMENT OUTCOMES AND RESPIRATORY COMPLICATIONS IN COVID-19 PATIENTS WITH LUNG CONDITIONS

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ABSTRACT

The Covid-19 pandemic has significantly impacted respiratory health, especially among individuals with pre-existing pulmonary conditions. This study analyzes the progression of disease and treatment outcomes in 126 patients, divided into groups based on their prior lung diseases and comorbidities.

Key methodologies include descriptive analysis, logistic regression and PSM to assess the influence of variables such as age, gender and therapy on post-treatment respiratory issues.

Findings show that inhalation therapy and bronchodilators effectively improved lung function, with bronchodilators achieving higher normalization rates. However, patients with prior lung conditions had a higher likelihood of respiratory complications after recovery. Gender was found to be statistically significant, since it showed women are more likely to experience issues post-treatment compared to men. The research highlights the need for personalized treatment and further investigations into long-term respiratory effects in COVID-19 patients with pre-existing conditions.

Keywords: Covid-19, respiratory health, comorbidities, bronchodilators, pulmonary function, treatment.

STRESS AND WORKLOAD OF SECONDARY CARE WORKERS IN POMURJE DURING THE COVID-19 EPIDEMIC

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Bojana Jerebic, Professor

Splošna bolnišnica Murska Sobota, Slovenia

Alma Mater Europaea University, Slovenia

ABSTRACT

Theoretical points: The work of nurses in health care is considered mentally and physically demanding. Nursing is considered a stressful profession. With the Covid-19 epidemic, the risk of stress and workload in nursing care providers has increased due to physical and mental strain.

Methods: In addition to basic descriptive statistics, the research part is based on a quantitative method of work, using a survey questionnaire, which was intended for nursing care providers at the secondary levels of health care. The total number of respondents included was 238 from the secondary level; Murska Sobota General Hospital. Graphical data processing was done in Microsoft Excel 2016 and IBM SPSS Statistic.

Results: During the epidemic, secondary level providers were more exposed to patients with covid-19. Stress levels among secondary level respondents were moderate. Despite the presence of stress and strain, respondents were partially satisfied with their jobs.

Discussion: In order to control and prevent infections such as the covid-19 epidemic among healthcare providers as at the secondary healthcare level, mutual cooperation between employees and superiors is necessary. At the same time, it is necessary to establish and take care of an appropriate workplace safety culture and organizational culture in order to manage and reduce the level of stress and workload at the workplace.

Keywords: stress, workload, nurse, health care levels, epidemic.

THE IMPACT OF WORKING TIME ON THE QUALITY OF WORKING LIFE OF NURSING STAFF

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Bojana Jerebic, Lecturer

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Alma Mater Europaea University, Slovenia

ABSTRACT

Theoretical background: In a hospital setting, shift work is a necessary form of working time organisation. Shift work has an impact on the quality of working life, and thus on the quality of life of nurses and other healthcare workers in general.

Methodology. The sample included 171 nurses employed at the General Hospital Murska Sobota. Descriptive statistics with frequency distribution, standard deviation, mean values, test of differences of arithmetic means and chi-square test were used to analyse the results using Microsoft Excel and IBM SPSS 25.

Results. Most respondents ($N = 45$, $f = 26\%$) rate their satisfaction with the quality of their job as 8. The highest Likert score for quality of work life was given by instrumentation staff. The quality of work life rating is not conditional on the department in which the respondents are employed, p is 0.083.

Discussion. According to them, shift work often or always affects their quality of working life. For the nurses surveyed, the lack of nursing staff is the most common factor that reduces the quality of their workplace.

Keywords: quality of life, shift work, nurse.

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LAW

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SCHOLARLY PANEL

PUBLIC SECTOR WORKFORCE AND THE DIGITAL DIVIDE: ADDRESSING AGE-RELATED CHALLENGES IN DIGITALIZED ADMINISTRATION

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ABSTRACT

The digital divide is a critical issue in the present context, particularly with the increasing digitalization of Public Administration. Vulnerable groups, such as those with fewer economic resources or the elderly, are the most affected by these technological shifts. However, while economic factors do not discriminate by age, aging impacts everyone universally. It is not only citizens who are disadvantaged by the digital divide, but also civil servants responsible for handling the administrative processes of these vulnerable groups. In Spain, for instance, the average age of civil servants in the General State Administration in 2021 was 51.33 years. In France, although the figures are slightly better, standing at an average of 44 years, the situation remains concerning. These statistics indicate that a significant portion of the public sector workforce in both countries could be affected by the digital divide. Consequently, it is highly plausible to encounter digitized administrative procedures in which neither the citizen nor the civil servant is adequately equipped to navigate the process. To mitigate this issue of generational turnover, which may compromise the effectiveness of public service, it is imperative to modernize the public sector workforce and provide technological training to older staff.

Keywords: digital divide, public administration, civil servants, technological training, generational turnover.

REGULATING INTERNET ACCESS RESTRICTIONS IN INDIA IN CONNECTION WITH THE RISE OF DIGITAL AUTHORITARIANISM

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Gergely Ferenc Lendvai, PhD Candidate
Faculty of Law of Eötvös Loránd University, Hungary

ABSTRACT

Although unrestricted access to an open, secure and reliable internet for all would be vital to protect fundamental rights, India has recorded the highest number of internet shutdowns worldwide for five consecutive years, and the number of known shutdowns may not even reflect the full reality. The presentation will describe the Indian legal framework of internet restriction (Code of Criminal Procedure, Telegraph Act, Telecommunications Bill) with a view of the judicial practice of the country's High Courts (Anuradha Bhasin v. Union Of India, Ashlesh Biradar v. State of West Bengal, Banashree Gogoi v. Union of India and 7 Others, Dharendra Singh Rajpurohit v. State of Rajasthan, Gaurav Sureshbhai Vyas v. State of Gujarat, Raju Prosad Sarma v. The State of Assam). The presentation questions whether the planned "modern and future-ready legal framework" of the Digital India Act will solve the arousing questions as the government seem to continue the bad practice even in 2024.

Keywords: internet access restrictions, India, judicial practice, Supreme Court, High Court, regulation, Code of Criminal Procedure, Telegraph Act, Digital India.

HIGH SCHOOL RESEARCH

**IN PARTNERSHIP WITH
II. GIMNAZIJA MARIBOR**

STUDENT PANEL

GENOMIC ANALYSIS IN YOUNG ATHLETES FOR DIFFERENTIATING ATHLETIC HEART AND EARLY FORMS OF CARDIOMYOPATHIES

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ABSTRACT

Physical activity is an essential component of a healthy lifestyle, as it positively affects an individual's physical and psychological well-being. Regular participation in strenuous and endurance sports can lead to physiological adaptations of the heart, known as the athlete's heart. These adaptations involve functional and structural changes, which can confuse diagnosis, as they are similar to changes seen in the early stages of cardiomyopathies. Cardiomyopathies are often asymptomatic in their early stages, making their detection crucial for timely intervention. One of the most advanced methods for fast and accurate genetic variant analysis is next-generation sequencing (NGS). In this study, we investigated the use of NGS in identifying potentially pathogenic genetic variants, which would help differentiate between athlete's heart and heart changes characteristic of cardiomyopathy. The results showed that NGS is an appropriate tool for this type of analysis, as all identified genetic variants were successfully validated using the Sanger sequencing method, which is considered the gold standard for confirming genetic changes. Additionally, using the bioinformatics tools VarSome and Franklin, we successfully classified these variants, allowing for an accurate assessment of their pathogenicity and contributing to a better differentiation between physiological heart adaptations and pathological changes characteristic of cardiomyopathies.

Keywords: athlete's heart, cardiomyopathies, next-generation sequencing (NGS), genetic variants, Sanger sequencing.

THE IMPACT OF DIFFERENT TYPES OF MEADOWS ON THE DIVERSITY OF TAXONOMIC GROUPS OF POLLINATORS IN THE MARIBOR REGION

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Zala Salaj, Student

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ABSTRACT

Pollination is a key process in nature that significantly impacts all forms of life. Many plant and animal species would struggle to survive without it, as pollination is essential for maintaining biodiversity and ensuring food production. This process represents one of the most important ecosystem services that enable ecosystem stability and functioning. In our research, we studied the number and diversity of pollinators on six meadows of three different types (extensive, intensive, and urban) using the 50-meter transect method to monitor pollinator dynamics during the active season, which lasted from May to September 2023. We collected data on pollinators using butterfly nets and direct observation. Additionally, using the quadrat method, we assessed the diversity of flowering plants, which are crucial for providing food for pollinators. Based on the collected data, we found that extensive meadows had the highest diversity and abundance of pollinators, which was linked to greater plant diversity and longer blooming periods. On the other hand, urban meadows had the lowest number of pollinators due to frequent mowing, which reduces the availability of flowers. Intensive meadows had fewer flowering plants, but these plants were primarily purple, a colour highly attractive to certain types of pollinators, particularly butterflies. Overall, we observed that intensive agricultural practices and urbanization negatively affect the number and diversity of pollinators, while extensive meadows provide better conditions for conserving these vital organisms.

Keywords: *pollination, pollinators, biodiversity, biodiversity threat, taxonomic groups, butterflies.*

THE IMPACT OF HONEY ORIGIN ON ITS ANTIMICROBIAL PROPERTIES

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ABSTRACT

Honey's antimicrobial properties arise from its low pH, hydrogen peroxide, enzymes, and bioactive compounds such as flavonoids and gluconic acid. This study examines how different honey types affect bacterial inhibition and compares the efficacy of undiluted and diluted samples. Five honey types were tested: artificial, industrial floral, homemade floral, homemade chestnut, and medical-grade chestnut. *Staphylococcus aureus* was cultured on agar, and each honey sample or its 1:1 saline dilution was applied to agar plates. After 24 hours at 37 °C, inhibition zones were measured. Results showed that artificial honey lacked antibacterial effects, underscoring the role of natural enzymes and bioactive compounds. Industrial floral honey also showed minimal inhibition, likely due to heat treatment during production. Homemade floral honey exhibited moderate antibacterial activity (14–15 mm inhibition zones), while homemade chestnut honey had the strongest effect (20–23 mm), attributed to its high flavonoid content and low catalase activity. Medical-grade chestnut honey also showed strong antibacterial activity (18–20 mm), though slightly less than its homemade counterpart, likely due to purification processes removing certain compounds. Dilution reduced antibacterial efficacy, decreasing inhibition zones by 1–2 mm across all honey types, highlighting the importance of active compound concentration. The study confirms honey's antibacterial potential, which is strongly influenced by its type, origin, and processing. Homemade chestnut honey was the most effective, while artificial and industrial honey showed little or no inhibition. These findings suggest that natural honey, particularly chestnut honey, could serve as an alternative antibacterial agent, warranting further research into its medical applications.

Keywords: Antibacterial activity, glucose oxidase, *Staphylococcus aureus*, honey types, dilution effect.

RESISTANT BACTERIA: SILENT WATER POLLUTANTS

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ABSTRACT

The aim of this study was to analyze the microbiological parameters of two well waters and four spring waters that are regularly used by households. Testing was conducted at various locations in the northeastern part of Slovenia and along the border with Croatia. When selecting samples, we focused primarily on water sources that people regularly use. We examined the presence of bacteria essential for assessing the microbiological quality of water: *Escherichia coli*, *Clostridium perfringens*, and bacteria from the *Enterococcus* genera (indicator microorganisms), as well as coliform bacteria. The results were compared with the regulations outlined in the National Drinking Water Regulations (NDWR). Bacterial isolates were also tested for antibiotic susceptibility, particularly for extended-spectrum beta-lactamases (ESBL) and carbapenem resistance. The study focused exclusively on resistance to beta-lactams, as these antibiotics are the most commonly used for treating human bacterial infections. We found that none of the samples met the prescribed microbiological parameters. Notably, we detected a multi-resistant bacteria from the family *Enterobacteriaceae*, *Serratia fonticola* ESBL, in one of the spring water samples. This bacterium is resistant to a broad spectrum of antibiotics, including beta-lactams and carbapenems. This finding suggests possible faecal water contamination and highlights potential risks associated with using such water sources for drinking purposes. This information is particularly concerning, as antibiotic-resistant bacteria pose a threat to public health systems and the environment. Our results raise serious concerns regarding the use of water sources that are not included in regular national monitoring programs.

Keywords: resistant bacteria, springwater, well water, health, antibiotics.

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HUMANITIES

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SCHOLARLY PANEL

SYMBIOSIS OF ECONOMY AND ART, THE CASE OF THE INTERNATIONAL SCULPTURE SYMPOSIUM FORMA VIVA IN MARIBOR FROM 1967 TO 1986

Davorin Kralj, Associate Professor
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ABSTRACT

Forma viva is an established name for sculpture symposia in Slovenia. The working sites were located in four locations, in Seča near Portorož (stone), in Kostanjevica na Krki (wood), in Ravne na Koroškem (iron) and lastly in 1967 in Maribor (concrete). I will discuss the Forma viva International Sculpture Symposium in Maribor from 1967 to 1986 from the perspective of the symbiosis of the cooperation between business and art. The caring city mayors of Maribor put an urbanistically interesting new approach of artistic creation in the raw concrete settlements at the youngest international sculptors' symposium Forma viva in Maribor. Selected national and international established sculptors are invited to place artworks alongside newly constructed concrete buildings in contemporary new-build dormitory working-class suburbs. And in concrete, at the initiative of the construction company Stavbar. The material posed the greatest challenge to all (co-) stakeholders in (co-)creating a great work of art in an open living environment. The symbiosis between business and art permanently marks the urban space with concrete sculptures by local and international artists. The research question of why there was collaboration between Maribor construction companies and artists, sculptors who realised artistic ideas in the then less known material concrete, will be explained. I used the method of fieldwork with observation of the sculptures created. I studied the literature and interviewed former employees of Stavbar who were involved in the realisation of the artworks. The results are presented with photographs from archives and the recorded memories of Stavbar employees and other stakeholders. In the discussion, I explain why cooperation between business and art is an important aspect of sustainability. Finally, I conclude the debate with suggestions for the care and preservation of the rich cultural heritage and future possibilities for cooperation between business and the arts.

Keywords: art, concrete, economy, sculpture, symposium.

THE OLFACTORY EXPERIENCE OF THE PLAGUE: ARTISTIC AND LITERARY REPRESENTATIONS OF THE DISEASE

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ABSTRACT

The conference paper examines the artistic and literary representations of the olfactory experiences associated with the outbreak of the plague and emphasises the deeply unpleasant and overwhelming nature of these odours. The air was saturated with the stench of disease and infected bodily fluids, along with the putrid odour of decaying human remains. In addition, the pervasive odours of contaminated environments—such as the musky smell of rodents and the stench of decay from dead rodents—added to the atmosphere of despair. Incense, which was often used at funerals and religious ceremonies to ward off evil or purify the air, added another layer to this olfactory picture, along with the acrid odour of fires used to burn the belongings of the deceased. Taken together, these odours evoke visceral responses that express the horror of the physical toll of the plague and its catastrophic effects on society. The pervasive odours of decay and contagion not only shaped the physical environment but also influenced the mental state of individuals and communities during these turbulent times. The research emphasises the crucial role of sensory experiences in understanding the historical and emotional dimensions of plague outbreaks.

Keywords: plague, smell, art history, literature, Slovenia, anthropology of smell, medical humanities, history of medicine.

GENTRIFICATION AS COMPATIBLE WITH SOCIAL JUSTICE, SOCIAL RESILIENCE AND DEVELOPMENT

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ABSTRACT

Gentrification has been generally characterised as a process at odds with Social justice, and as something to be avoided in order to maintain the character of a neighbourhood. I argue that rather, this process is not only natural and inescapable, but can have a positive effect on society while not harming social justice, while its negative effects on lower income people can be easily alleviated by small scale local government intervention. At the same time this process builds social resilience by improving and revitalising neighbourhoods, while opening the opportunity for the improvement of infrastructure and reintegration of decaying areas. We put gentrification in the context of social resilience to review its effects and influence on making urban areas more stable. Therefore we should destigmatize the word and the processes behind it, as they are not abnormal nor to be abhorred. In the essay we review the arguments for and against gentrification to recontextualize it as not being in enmity with social justice, using the theoretical precepts that social justice originates in.

Keywords: gentrification, social resilience, social justice, urban resilience.

SOCIAL RESILIENCE AND HARMONY IN THE CONTEXT OF INCOME INEQUALITY AND INTOLERANCE

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ABSTRACT

Much has been written about inter-ethnic peace and reconciliation, both between countries and within heterogeneous cities, yet we can perceive a slight flaw, as most of it observes ethno-religious societies as monolithic. We shouldn't make the mistake of attributing agency to nations or ignoring the divisions within them (Patterson 1988). Keeping in mind class conflict and societal differences and viewing reconciliation while thus reinforced, we ask a further question: Are there class-based differences in approaches to reconciliation, and how can this be used to improve the process? By this we mean to add a novel approach, as the debate about reconciliation is mostly oriented towards dialogue, emotion, and the direct interaction between communities. By asking if there is a difference between the approaches to social reconciliation and solidarity between people of different incomes and means in the respective societies, we can attempt an indirect solution from within societies rather than between them. At the same time the concept of social resilience has not been approached from a position of ethno-religious peace between communities within cities, which we perceive as a flaw as resilience rests upon a functioning society of solidarity and mutual aid, which cannot exist in divided societies.

Keywords: social resilience, nationalism, social inequality.

ATTITUDE OF CERTAIN SLOVENE AGE GROUPS TOWARDS SURROGACY

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ABSTRACT

Due to the increasing trend of infertility worldwide, modern medicine has developed several methods that enable the reproduction of society, but these procedures require a reconceptualization of parenthood. One of these (new) reproductive technologies is surrogacy. The purpose of this paper is to determine the attitude of Slovenians towards surrogacy, considering the gender, age, and education level of the respondents, and to predict the extent to which the Slovenian population would support its legalization.

The empirical research was based on a quantitative method of data collection – an online survey (N = 563). The questionnaire was designed based on the German and Polish models, and the collected data were processed with the use of IBM SPSS programme.

The results have shown that Slovenians would mostly support the legalization of surrogacy, with support for gestational surrogacy being more pronounced compared to traditional surrogacy. A significant difference has also been found in the attitude towards commercial surrogacy – men would support it to a greater extent, while women have shown more altruistic motives.

Among the studied demographic variables, only gender has proven to be a statistically significant predictor.

In general, Slovenians are mostly in favour of surrogacy as one of the forms of social parenthood. Based on the results of our research and trends towards the legalization of surrogacy in some other countries, we conclude that this proportion would decrease with awareness of the legal, ethical, social, religious, and psychological limitations.

Keywords: surrogacy, social parenthood, reproductive technologies, commercialization of reproduction, surrogate motherhood.

CULTURAL FORMATIONS

SCHOLARLY PANEL

FOREST CULTURE, FOREST POLITICS

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ABSTRACT

This conference paper addresses the ideological and political aspects of the forest, forest tree species and individual trees in relation to humans. The author introduces the ideology of arborism – a system of hierarchization of tree species and individual trees that reflects the values of a particular society or social subcultures. Arborism is constructed by the political-cultural history of a community; the consequences of this ideology for the preservation of forest tree formations and species in the habitat are far-reaching. As an example of arborism, the author highlights the veneration of sacred trees among nature worshippers of Primorska and the attitude towards special trees in Slovenian society in the past and at present. In the second part of the paper, the author focuses on the forest as a biocommunity, based on symbiotic relationships, and the parallels with human communities. Special emphasis is placed on subjectivity of the forest within human forest policies and politics of resistance.

Keywords: forest, politics, arborism, nature worship.

SYMBOLIC COMMUNICATION AND CULTURAL EXCHANGE: LITERATE SOCIETIES AND CENTRAL EUROPE IN THE BRONZE AGE

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ABSTRACT

During the first half of the 2nd millennium BCE, extensive clay tablet archives in Western Asia provided a wealth of information on politics, religion, law, poetry, administration, and daily life. Similarly, the Minoan and Mycenaean cultures of the Eastern Mediterranean developed writing systems, also preserved on clay tablets. In contrast, no direct evidence of writing has been discovered in contemporaneous Central Europe. However, enigmatic clay objects known as "loaf-of-bread idols" featuring imprinted symbols, hint at a broader communicative or symbolic function within the interaction networks of Early and Middle Bronze Age Central Europe. This study investigates the possible links between the rise of these "loaf-of-bread idols" and interactions with the literate societies of Western Asia and the Eastern Mediterranean. By examining the material and cultural exchanges between these regions, the study aims to shed light on the influence of literate cultures on the development of symbolic or proto-literate practices in Central Europe.

Keywords: cultural exchange, Bronze Age, communication, interaction networks, early writing.

FILM ART AND ARTIFICIAL INTELLIGENCE

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ABSTRACT

Film art as 'seventh art' basically combines the authors of different art directions, who are realizing the author vision of film director and script author. This two are authors, who creates narration through a strong visual expression, due the fact the film combines narrative and visual expression. The film director surrounds himself with a strong author team to realise his vision, fulfilled with his imagination, what at the end reflects on the big cinema screen. With the appearance of the 'artificial intelligence', i.e. the computer algorithm combined with the data base, the idea appeared, to replace the author team with the 'artificial intelligence' or if we say with the narrative-visual creation of the computer algorithm. So, whereto in our information society is moving the film art, which, basically, is the creation of a big author-human film team.

Keywords: film art, film author, artificial intelligence.

JUST WAR: A COMPARISON OF AUGUSTINE'S THOUGHT AND PUBLIC INTERNATIONAL LAW

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ABSTRACT

This paper will conduct a comparative analysis of Augustine's understanding of just war and the normative framework encompassed by international public law. It will focus particularly on the questions of a just cause, legitimate authority, and the limitations that should apply to warring parties during conflict. Although some previous research has explored Augustine's influence on international public law, no analysis has specifically focused on the consistency and differences in values between Augustine's and international legal thought. While public international law, in accordance with the prohibition of aggression, generally permits wars only in self-defense, Augustine posits that war is a consequence of sin but can also, in extreme circumstances, be a means of combating sin. International public law most closely approaches Augustine's concept in the doctrine of the responsibility to protect, which aims to ensure respect for the prohibition of genocide, war crimes, ethnic cleansing, and crimes against humanity.

Keywords: just war, Augustine, public international law, prohibition of aggression, self-defense, responsibility to protect.

ALMA KARLIN'S SELF-IDENTIFICATION IN THE MIRROR OF ASIAN CULTURAL OTHERNESS

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ABSTRACT

In the contribution I would like to focus on Alma Karlin's travelogues with the aim of shedding some light on her self-identification reconfigured in the face of changeable cultures she encountered while travelling. I will focus on her perception of Asia (Japan, Korea, China, India). Karlin was born to the Slovene family in 1889 in Celje in Austria-Hungary. She was talented for languages and curious about foreign lands. In the age of 30 she decided to embark on a long journey around the world which lasted 8 years (1919-1927). Karlin visited different continents and experienced various instances of cultural alterity. First she explored the Western Hemisphere (both Latin America and the USA), then she headed for Asia and Australia, New Zealand. Her journey abounded in moments of both enriching experiences of fascination with foreign cultures but also dangerous and unpleasant encounters, especially in the countries characterized by machismo like Peru. After her return to Yugoslavia, during and after the World War II she had to face estrangement imposed by new political circumstances. Her German cultural background and independent, critical thinking made her suspicious to the new communist regime. In consequence Karlin was isolated and for a long time forgotten.

Keywords: Alma Karlin, travel, Asia, self-identification.

THE FIGHT OF SLOVENES AGAINST NAZISM AND GERMAN MINORITY ON SLOVENIAN SOIL BEFORE SECOND WORLD WAR

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ABSTRACT

In contribution, drawing on archival sources and photography material, the author analyses the fight of patriotic Slovenes against Nazism and Nazified German minority in pre-war Slovenia (Drava Banovina). Nazism was particularly projected through the subversive activities of Kulturbund, totalling 12,268 members by January 1941. Especially in the 1930s, the organization engaged in intense agitation for Hitler's Germany, dissemination of Nazi propaganda, rhetoric, literature, demagoguery, and slogans, and public display of Nazi symbols, flags and salutes. Additionally, the German minority, affiliated with Kulturbund, conducted subversive activities, gathering secret and sensitive information about the Yugoslav state and anti-German individuals. The patriotic Slovenian population could not rely on the Yugoslav authorities and, alongside Communist members, did not remain idle. In response, they initiated resistance against Germanization, submitted reports to higher authorities, and carried out physical countermeasures, such as setting fire to a hut on Rogla in the autumn of 1937, where Nazi youth courses for Nazification of Slovenian youth were being held. The Ptuj Sokol Society introduced shooting courses for its members and organized combat drills and grenade-throwing exercises. They actively obstructed the display of German flags, the lighting of bonfires, and celebrations of Hitler's birthday. Expressions of outrage petitions were written, and Slovenian newspapers frequently published calls for collective defence and resistance against the spread of Hitlerism. Caricatures, brochures and anti-Hitler propaganda leaflets warning of the Nazi-Fascist threat were published, and politically resonant pamphlet actions were organized. Slovenian songs were sung and widely promoted in cultural spheres as a symbol of national resistance. Unfortunately, the German minority in Slovenia and Kulturbund had already become a flexible, mobile, fluid, and adaptable force, well-coordinated and capable of adjusting to prevailing external and internal conditions. It played a decisive role in shaping the tragic fate of Slovenes during the war. At the end of the war, their fate was sealed with cruel and often out-of-the-court settlements, measures, unjustifiable and inhuman mass killings, and massacres of civilian people.

Keywords: German Minority, Drava Banovina, Kulturbund, Nazism, fight against Nazism, anti-Hitler propaganda.

NORMATIVITY AS A METHODOLOGICAL ERROR IN EUROPEAN SOCIAL SCIENCES IN THE CONTEXT OF MIGRATION

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ABSTRACT

This paper addresses the methodological challenge of unconscious normativity in European social science, which can be observed in research on migration and cultural change. Through a careful discursive analysis of selected scholarly articles published in prominent social science journals, it explores how the implicit normative emphases characteristic of European culture - in particular the emphasis on the individual as a core value - often lead to the neglect of broader, collective and cultural-historical factors in the analysis of social processes. In the context of contemporary European migration, this neglect includes, for example, the overlooking of Islam as a politically, culturally and ontologically significant entity. Through an analysis of the uninformed use of key concepts such as 'the individual', 'tolerance' and 'religious identity', the paper shows how such discourse leads to scientifically incomplete interpretations that ignore culturally diverse perspectives on the relationship between collective entities and the individual. The paper draws on authors in the field of ethnosociology to argue that accurate, value-neutral descriptions of social facts are crucial for the formulation of effective and meaningful policies in contemporary Europe.

Keywords: methodology, social sciences, normativity, migration, collective identities.

HERITAGIZATION OF THE SEČOVLJE SALTERN AND THE SALT MAKING IN THE MUNICIPALITY OF PIRAN

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ABSTRACT

For centuries, the economic development of Piran was based on the production of sea salt. The Sečovlje saltern is the largest of the former Piran salterns, and salt is still produced today in the traditional way using a crystallization ground called petola. Today, tourism is the most important economic sector in the municipality of Piran. The municipality of Piran boasts the highest number of tourist nights in Slovenia. An exploratory walk from the Sečovlje saltern to the municipal center of Piran will point out examples of the heritagization of the Sečovlje saltern and the salt production in the area. It will focus on roads, streets, individual buildings, hotels, restaurants, gastronomy, shops, and public signs.

Keywords: heritagization, heritage, Piran salt, Adriatic Sea.

SALT-WORKING AS ENVIRONMENTAL COHABITATION: AN EXPERIENTIAL ECOETHNOGRAPHY

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Institute for Philosophical and Religious Studies, Slovenia

ABSTRACT

Salt production has long been a vital local industry, driving economic and social development for centuries along the coastal region of what are now Slovenia's four Istrian municipalities. Contemporary salt-working is little known to the public – it is mainly romanticized as a rich cultural heritage, located in the enchanting environment of the Sečovelje Salina Nature Park. Based in environmental anthropology and grounded in ecoethnography, this paper offers an alternative perspective on contemporary salt-working. The ecocentrally reshaped method of participant observation allows for a focus on experience as the most important part of salt-working. Based on fieldwork conducted among salt-workers in 2024, the findings of this research redirect the understanding of salt-working towards a practice that is inherently situated in a specific environment, therefore representing a paradigm for environmental cohabitation.

Keywords: salt-working, ecoethnography, experiential fieldwork research, environmental anthropology.

HERITAGIZING SALT-PRODUCTION: NATIONAL IDENTITIES AND THE BOUNDARIES OF NATURAL AND CULTURAL HERITAGE

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ABSTRACT

The ethnographic group "La Famea dei salineri" / "Solinarska družina" was founded more than two decades ago to promote cultural heritage associated with work in the salterns of nowadays Slovenia. The group is distinguished by their traditional attire and tools, showcased in local events. This contribution focuses on their heritagization of the salterns, exploring its connection to national identity and the boundaries between natural and cultural heritage.

Keywords: salterns, salt-production, heritagization, nationalism, folklorism.

COEXISTENCE AS A "STATE OF MIND": LEGAL NORMS, THEIR IMPLEMENTATION AND THE PRACTICE OF SALTMAKING

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Mediterranean Institute for Environmental Studies, Slovenia

ABSTRACT

Saltmaking is one of the most valuable living examples of coexistence between nature, cultural heritage and sustainable use in Slovenia. However, the foundational legal documents that provide the framework for saltmaking in the protected areas of Piran's salina do not always speak of coexistence only – over time they have reflected various conceptual relationships and understanding of the relationship between nature and humans, natural and cultural heritage, gradual processes of social change and their management. In this presentation, we will observe the role of formal norms in consolidating and/or changing social norms and practices. We will draw on an original database of foundational documents on saltmaking, and offer an analysis of primary documents on the salina, discourse analysis and system analysis to point to the saltmaking activity at the intersection of many factors, in particular the wider social values, interests and actions of a narrow circle of decision-makers, who have the power to disrupt the coexistence, but also re-establish it.

Keywords: nature-culture interplay, resilience in traditional practices, human-nature relationships, environmental governance, heritage sustainability.

THE ELEMENTAL POETICS AND PHENOMENOLOGY OF SALT AND SALT-MAKING

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Institute for Philosophical and Religious Studies, Finland

ABSTRACT

In my presentation, I will explore the phenomenon of salt and the process of salt-making from the perspective of Gaston Bachelard's elemental poetics and Maurice Merleau-Ponty's elemental phenomenology of the flesh. I will investigate what could it mean if the phenomenon of salt would be understood as a crystallisation of the Bachelardian poetic and cosmic elements of water, earth, air and fire. In addition to this, I will study how in the process of salt-making the salt-worker's lived body as a fleshy way of being is intertwined with the elemental wholeness of nature (air, water, earth, fire, petola, tools, things, salt, etc.) that Merleau-Ponty calls the flesh of the world. In dialogue with Bachelard and Merleau-Ponty, I will argue that salt-making could be possibly understood as a certain kind of elemental, cosmic, creative, embodied and experiential poetry (the Greek poesis as "making") of the salt.

Keywords: elemental poetics, phenomenology, salt, Gaston Bachelard, crystallisation.

MODERN TECHNOLOGY AND POSTMODERN SOCIETY AS WELL AS HERITAGE KNOWLEDGE

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ABSTRACT

The contribution will treat how we approach knowledge that has been created in the long era of human evolution and everyday life through experience and observation in active coexistence with the natural and social environment. This knowledge, called convivial or also hermeneutic knowledge, is recorded and "stored" in a specific way in both tangible and intangible heritage context. Due to the great emphasis that modern society is placing on technological and empirical knowledge, the aspect of heritage knowledge remains somewhat undervalued. The contribution will draw attention to the possibilities offered by modern technologies for research, documentation, interpretation and communication of heritage knowledge.

Keywords: heritage knowledge, modern technologies, postmodern society, interpretation, communication.

FOSTERING HEALTH THROUGH CULTURAL HERITAGE: THE POTENTIAL OF ARCHAEOLOGICAL TRAILS

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ABSTRACT

A sedentary lifestyle combined with an overabundance of food is increasingly contributing to various, sometimes severe, health problems in Western societies. These challenges place significant strain on healthcare systems. However, activities associated with cultural heritage have so far received limited attention in efforts to promote physical activity. Archaeological heritage, in particular, offers an excellent opportunity to encourage physical activity in natural settings, for example, through archaeological hiking trails.

These trails can be made even more engaging for visitors through the use of modern technologies, such as applications that enable augmented reality, bringing archaeological heritage to life in vivid and interactive ways. This presentation will explore how cultural heritage, enhanced by modern technologies, can contribute to well-being and public health.

Keywords: cultural heritage, wellbeing, physical activity, archaeological trails, interactive tools.

MANAGING HOUSE MUSEUMS IN SLOVENIA – HERITAGE, TECHNOLOGY, AND AUTHENTICITY

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ABSTRACT

The presentation is based on research into the management of house museums in Slovenia, with a particular focus on integrating modern technology into authentic spaces such as house museums. The study examines current practices, challenges, and opportunities for the use of digital tools in documenting, interpreting, and promoting heritage. A key question addressed is how much technology is appropriate to introduce into authentic spaces to preserve their historical character while enhancing accessibility and appeal for visitors.

The presentation will discuss a balanced approach to using digital tools such as interactive guides, virtual reconstructions, and applications that can enrich the visitor experience without compromising the authenticity of the space. It will also highlight the role of technology in promoting house museums through digital platforms, which increase their visibility and accessibility to a broader audience. The contribution will showcase examples of good practices and explore sustainable strategies for employing technology as a supportive tool in the preservation and interpretation of heritage.

Keywords: house museum management, heritage and technology, authenticity, interpretation, digital promotion.

DESIGN WITHIN THE CULTURAL INDUSTRY AND THEIR ROLE IN INCLUSIVITY, EXPERIENCE AND ACCEPTANCE OF HERITAGE

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ABSTRACT

Design is a cultural service and its contribution to various projects of protection, presentation and interpretation of heritage is very important. Cultural and creative industries, including design, are essential for ensuring the further development of society and are at the heart of the creative economy, as they support the creation, production, distribution and access to cultural goods and services in cooperation with policies and measures. The awareness that design is an inseparable part of the interpretive process and can significantly contribute to inclusivity, experience and acceptance of heritage is of key importance in the context of cultural and creative industries. In recent decades, with the help of new technologies (especially digitization in the heritage field), a participatory and more personal relationship between heritage institutions and visitors has begun to develop. Likewise, various initiatives and the implementation of long-term cultural programs provide new opportunities for disseminating heritage. With many positively set goals in connection with culture and heritage, the question nevertheless arises - how could culture (and related activities, including those from the field of design) be better and more meaningfully integrated into the living environment within the heritage context.

Keywords: cultural and creative industries, heritage, design, design for heritage, cultural values.

MODERN TECHNOLOGY AND TECHNIQUES FOR THE CONTROL OF THE ILLICIT MARKET IN CULTURAL PROPERTY

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ABSTRACT

The trafficking of illicitly acquired cultural property is largely an international process. It involves a number of activities, ranging from the illegal acquisition of artefacts, trafficking across national borders and the process of „laundering“ cultural property to importation and sale at the final destination. The aim of those involved in trafficking networks is to transform illicitly acquired cultural property into an object for sale (often already legal) at the final destination. If they do not succeed completely, they at least try to disguise the illicit origin or make it untraceable. They do this by exploiting legal loopholes in the international environment. By adopting international legal instruments to combat the trafficking of cultural property and incorporating these instruments into their national legislation, countries have introduced various methods of control at local, national and international levels. These methods range from the most basic field controls to the most technologically sophisticated control techniques.

Keywords: trafficking of cultural property, modern technology.

WEB AND INFORMATION TECHNOLOGIES

SCHOLARLY PANEL

A COMPARATIVE STUDY OF SURROGATE GRADIENT DESCENT-BASED CONVOLUTIONAL SPIKING NEURAL NETWORKS AND CONVENTIONAL CONVOLUTIONAL NEURAL NETWORKS IN BREAST CANCER DETECTION USING X-RAY IMAGING

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Maciej Wielgosz, Assistant Professor

Matej Mertik, Associate Professor

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ABSTRACT

Medical imaging for the detection of breast cancer is an important area in medical diagnostics, especially with X-ray imaging.

Classic CNNs have achieved great success in medical image analysis because they are very good at recognizing objects and performing feature extraction. On the other hand, Spiking Convolutional Neural Networks using Surrogate Gradient Descent have been one of the prominent alternatives, having attained perfection in terms of accuracy and computational resources utilization efficiency through biologically inspired learning mechanisms while deployed on neuromorphic computers. The present work provides a comparative study of the two neural architectures regarding the detection of breast cancer cells from X-ray images using widely available non-neuromorphic devices such as the CPU.

Keywords: breast cancer detection, Spiking Neural Networks (SNNs), Convolutional Neural Networks (CNNs), medical imaging, energy efficiency.

EVOLUTION AND APPLICATIONS ACROSS DISCIPLINES OF THE UTAUT MODEL

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ABSTRACT

The Unified Theory of Acceptance and Use of Technology (UTAUT), developed by Venkatesh et al., builds upon the Technology Acceptance Model (TAM) and serves as an important framework for understanding user acceptance and adoption of new technologies before their implementation. It consolidates elements from multiple theoretical models, offering a comprehensive perspective on factors influencing technology acceptance, including performance expectancy, effort expectancy, social influence and facilitating conditions, moderated by demographics and usage context. The extended UTAUT2 model integrates additional constructs such as hedonic motivation, price value, and habit, enhancing its applicability to consumer-oriented technologies. This study explores the evolution and application of the UTAUT model across various disciplines. A literature review reveals its adaptability in diverse contexts, including mobile banking, healthcare, online information services, and more. The findings highlight the relevance of the UTAUT model in studying the dynamics of technology adoption while identifying areas for refinement. By integrating additional individual-level factors, the model can better capture the complexities of user behavior. As technology continues to evolve, the UTAUT framework remains a valuable tool for researchers in understanding technology adoption patterns with applications across numerous disciplines.

Keywords: UTAUT, UTAUT2, technology adoption, technology acceptance, interdisciplinary applications.

DIGITAL MARKETING AND PROMOTION OF SLOVENIAN HIGHER EDUCATION PROGRAMS IN INFORMATION AND COMMUNICATION TECHNOLOGIES AT THE UNDERGRADUATE LEVEL

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Matej Mertik, Associate Professor

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ABSTRACT

This research investigates digital marketing and other strategies to promote first-cycle Bologna programmes in information and communication technologies (ICT) in Slovenia. The topic is under-researched, as only a few universities and higher education institutions in Slovenia offer ICT programmes. Moreover, digital marketing and technology evolve rapidly, underscoring the value of looking to European, non-European, and American universities that frequently employ advanced marketing approaches.

The study is divided into two sections: a theoretical review of best practices from different universities and an empirical analysis focused on the needs of key target groups. These groups include high school students, university students, and marketing staff. The research highlights that Slovenian universities do not fully utilize the potential of digital marketing, particularly in leveraging precise metrics and targeting tools. Advanced analytics, which could help create detailed psychographic profiles of target groups, are largely absent, limiting the effectiveness of marketing strategies.

These marketing gaps contribute indirectly to the significant shortage of ICT professionals in Slovenia. According to Eurostat, Slovenia has the highest deficit of ICT professionals in the European Union. Although approximately 2,500 ICT professionals are trained annually, this number is only half of what the market demands, leaving a considerable gap in the workforce.

Keywords: digital marketing, educational marketing, higher education ICT, recruitment marketing, target audience psychology.

THE USE OF ARTIFICIAL INTELLIGENCE IN THE PEDAGOGICAL WORK OF HIGHER EDUCATION TEACHERS

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ABSTRACT

The study analyzes the perspectives of Slovenian higher education teachers regarding the use of artificial intelligence (AI) in education, with a focus on the role of ICT technologies. It examines the level of awareness of language models and AI applications, such as ChatGPT, and explores the extent and types of training participants have completed in this field. Additionally, it investigates their needs for further education to effectively utilize AI in pedagogical and administrative contexts. The results reveal that most respondents recognize AI's potential for learning personalization, digital support, and streamlining administrative processes. However, concerns persist regarding reliability, ethical issues, and reduced personal interaction. The study confirms the need for structured educational programs aimed at strengthening competencies for AI usage and highlights the importance of developing strategies for the successful integration of these technologies into the higher education system. The findings are relevant for further research and policy development in Slovenia and similar contexts.

Keywords: artificial intelligence, Slovenian higher education teachers, personalization of learning, pedagogy, education.

LIQUID NEURAL NETWORK IN MODELLING RAINFALL-RUNOFF

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ABSTRACT

This study explores the use of Liquid Neural Networks (LNNs) to predict runoff for one, three, and six days ahead, highlighting their superior performance compared to traditional models such as Artificial Neural Networks (ANNs), Model Trees (MTs), and Long Short-Term Memory (LSTM) networks. LNNs leverage a dynamic reservoir of neurons, enabling them to capture complex temporal dependencies inherent in the rainfall-runoff process. The study employs a case analysis of the Sieve River basin, using historical hydrological data to train and evaluate the models. The results demonstrate that LNNs consistently outperform other models across all prediction horizons, achieving the lowest Root Mean Square Error (RMSE) and Normalized Root Mean Square Error (NRMSE) values, and the highest Coefficient of Efficiency (COE). This indicates that LNNs are highly effective for both short-term and long-term hydrological forecasting, offering significant potential for enhancing water resource management and flood prediction strategies.

Keywords: hydrology, liquid neural networks, runoff prediction, hydrological forecasting, temporal dependencies, machine learning, rainfall-runoff modeling.

A MULTIMODAL AI FRAMEWORK FOR LONGITUDINAL WORKPLACE MONITORING AND WELL-BEING ASSESSMENT

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ABSTRACT

Monitoring employees' states at work can encompass multiple dimensions such as performance, organizational climate perception, stress levels, and mental health. Traditionally, this has been achieved through isolated data collections via standardized questionnaires, focusing on specific dimensions at discrete moments. This research proposes a framework for modeling and generating outputs, such as stress detection to prevent burnout, identification of depression precursors, mental health issues, and performance Monitoring employees' states at work encompasses multiple dimensions such as performance, organizational climate perception, stress levels, and mental health. Traditionally, these are evaluated through isolated data collections using standardized questionnaires, focusing on specific dimensions at discrete moments. This research proposes a framework for modeling and generating outputs, such as stress detection to prevent burnout, identification of depression precursors, mental health issues, and performance detractors, leveraging multimodal and longitudinal data. Applications of this nature remain scarce but highlight challenges, particularly in developing models applicable across varying organizational contexts, diverse populations, or temporal stages of the same individual.

The methodology integrates behavioral and contextual data into a continuous monitoring system. The research aims to create standardized metrics for identifying risk factors and delivering real-time interventions to enhance work-life balance and well-being. This contributes to strategic HR decisions, aligning AI-driven interventions with contemporary workplace challenges.

Keywords: employee well-being, multimodal data, stress detection, longitudinal analysis, interpretable AI.

TRANSFORMING HIGHER EDUCATION IN IRELAND: N-TUTORR'S JOURNEY TO EMPOWERMENT, SUSTAINABILITY, AND DIGITAL INNOVATION 40

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ABSTRACT

Ireland's National Technological University Transformation for Recovery and Resilience national project (N-TUTORR) is supported by the Higher Education Authority (HEA) and co-ordinated by the Technological Higher Education Association (THEA). The N-TUTORR project is an innovative collaboration that sought to harness the learnings in the sector during the Covid 19 pandemic, across the Technological Higher Education (THE) sector. The intention was to transform the student experience through technology and staff/student collaboration, in alignment with the Sustainable Development Goals (SDGs). The N-TUTORR thematic areas include six core themes: Academic Integrity, Digital Transformation in Teaching and Learning, Education for Sustainability, Employability, Equality Diversity & Inclusion and Universal Design for Learning which are subsequently divided into three streams; Student Empowerment, Staff Capabilities and Digital Ecosystems.

This paper will introduce the N-TUTORR project, a €40 million national project across the Technological University (TU) sector within Ireland. This project has significantly advanced Ireland's Higher Education (HE) landscape by leveraging innovative pilot projects and practical implementations by empowering students, developing staff and implementing new infrastructure, both physical and digital. The paper will be anchored around key examples from the project, illustrating its impact through the lens of its six core themes on the students of the Technological University of the Shannon (TUS). In addition, actionable suggestions for future research which enhance the impact of such initiatives as the N-TUTORR project and progress the future of HE in Ireland and beyond particularly for our students will be investigated.

Keywords: Technological University of the Shannon, TUS, NTUTORR, student centered, digital transformation.

DESIGN AND DEVELOPMENT OF THE CASE MANAGEMENT INFORMATION SYSTEMS

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ABSTRACT

The Case Management Information System (CMIS) project for the Kosovo Judicial and Prosecutorial Council (KJC/KPC) represents a transformative initiative to modernize the judiciary through digital innovation. Supported by the Norwegian Government, the project aims to enhance efficiency, transparency, and accountability within Kosovo's judicial and prosecutorial institutions. This paper outlines the design, development, and implementation of the CMIS, focusing on key phases, outcomes, and challenges.

Key objectives included digitizing workflows, introducing automated case management, and improving citizen access via a public portal. The system was designed with scalability, interoperability, and user-centric features, incorporating automated case assignment and interagency data integration. The phased implementation achieved notable results, including increased process efficiency, enhanced data integrity, and improved user engagement.

Despite challenges such as legacy data issues and infrastructure limitations, the project demonstrated the value of tailored ICT solutions for judiciary reform. Recommendations emphasize sustainable platform selection, continuous training, and robust support mechanisms to ensure long-term success.

The CMIS project provides a compelling case study of how technology can drive judicial reform, offering lessons for similar initiatives globally.

Keywords: Case Management Information System; Kosovo Judicial and Prosecutorial Council (KJC/KPC).

ARTIFICIAL INTELLIGENCE IN PREDICTING SATISFACTION WITH QUALITY OF LIFE FOR STUDENT POPULATION

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Sanja Seljan, Professor

University of Zagreb, Faculty of Humanities and Social Sciences, Croatia

ABSTRACT

Artificial intelligence provides tools for analysis of large data sets and making predictions, such as satisfaction with life. Quality of life is a complex concept that encompasses different dimensions of human existence, such as physical and mental health, financial stability, social relationships, personal beliefs, and living conditions. Satisfaction with the quality of life often depends on individual values, expectations, and the ability to cope with challenges. Despite similar circumstances, perceptions can vary significantly among individuals.

The aim of this research is to develop a model for predicting quality of life satisfaction using machine learning. The model was developed using a Random Forest regression algorithm, based on the responses of 400 students, organized into 27 factors. The model identified key factors such as sleep quality, social life, physical activity, and personal safety as the most important for predicting satisfaction.

The results indicate the complex nature of quality of life among students, highlighting the need for interventions aimed at improving their daily conditions. This model has the potential for broader application, including the development of personalized interventions and strategies aiming to improve student health, general well-being and contribute to long-term life satisfaction.

Keywords: artificial intelligence (AI), prediction, machine learning, quality of life, student population.

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SOCIAL INFRASTRUCTURE

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SCHOLARLY PANEL

INVITED SPEAKER

DECLARATION ON MAINTAINING AND IMPROVING THE QUALITY OF LIFE OF OLDER ADULTS

Dragica Marač, Head of the Department

Administrative Department for Social Policy and Youth of the Primorje-Gorski Kotar County, Croatia

ABSTRACT

According to the 2021 Census of Population, Households, and Dwellings in the Republic of Croatia, the share of people aged 65 and over in Croatia was 22.4%. The situation in the Primorje-Gorski Kotar County is even more concerning, with older adults making up 25.8% of the population. Considering that the aging population will lead to a significant increase in the proportion of elderly individuals in the coming period, decision-makers in public administration must pay special attention to expanding available and sustainable care concepts for older persons. For many years, the Primorje-Gorski Kotar County has been implementing various projects and programs aimed at improving the quality of life for older adults, with a focus on preventive activities and non-institutional forms of social services. To further strengthen the collaboration between key stakeholders (local government units, the academic community, and civil society organizations) and to encourage the development and implementation of concrete programs, projects, measures, and activities aimed at ensuring and enhancing the quality of life for the elderly, the County Assembly of Primorje-Gorski Kotar County has adopted the Declaration.

The primary role of the Declaration is to ensure the consolidation of material and human resources to develop long-term sustainable care concepts for the elderly. Additionally, the Declaration will serve as an advocacy tool aimed at decision-makers and will contribute to raising public awareness of the social challenges faced by older adults.

Keywords: declaration, elderly persons, quality of life, public administration, advocacy.

THE CENTER FOR INNOVATION IN SOCIAL WELFARE – CENTINOSS

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ABSTRACT

The Center for Innovation in Social Welfare – CENTINOSS is a cross-border cooperation project under the Interreg Slovenia-Croatia program, implemented by a partnership consortium in which the Primorje-Gorski Kotar County plays the role of the lead partner. The goal of the CENTINOSS project is to improve the provision of social services in social welfare institutions and to encourage cross-border cooperation between Slovenia and Croatia through the exploration of successful practices, the development of innovative work concepts, the implementation of modern technologies, and the realization of specialized educational and training programs. The project plans to establish an infrastructure and programmatic framework for designing, testing, and implementing social innovations, thereby contributing to the more efficient delivery of services to end users. In addition, a cross-border team for innovation in social welfare will be formed through the project, which will utilize modern methods and tools from social welfare, behavioral sciences, cognitive neuroscience, anthropology, design thinking, and service design in its work. The project represents an upgrade of the Interreg project "Age Without Borders" and builds upon the work concept defined by the E-Qalin quality system. An additional value of the project is the inclusion of all key stakeholders in the innovation management process in the field of social welfare (management, professionals, residents, users of senior citizens' clubs, families, volunteers), as well as the creation of a unique cross-border innovation center that will ensure the long-term sustainability of the project. The project activities are planned through two thematic, interrelated work packages: 1. Development and implementation of new models of care for older people, and 2. Development and testing of social innovations in the provision of social services. Through the CENTINOSS project, an efficient platform for the development of social innovations in the cross-border area will be established.

Keywords: Interreg project, social innovations, social policy, elderly people, people with mental difficulties.

CHALLENGES OF INTEGRATING SOCIAL INNOVATIONS INTO SOCIAL SYSTEMS

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ABSTRACT

Implementing innovative long-term care (LTC) services remains a critical challenge in Slovenia despite successful pilot projects such as the MOST Pilot Project. This study explores key barriers to scaling social innovation developed in pilot projects, including policy constraints, funding limitations, workforce training gaps, and user acceptance issues. The paper highlighted the need for regulatory adjustments, a sustainable financing model, and enhanced workforce development to ensure the continuity of integrated LTC services. Public engagement and awareness efforts are also necessary to improve user acceptance and trust in new care models. The findings emphasize that the transition from pilot projects to nationwide implementation will remain challenging without systematic policy alignment, long-term financial planning, and targeted training programs. The insights from the conference contribute to the broader discourse on effective social innovation scaling in long-term care, offering recommendations for policymakers, stakeholders, and practitioners.

Keywords: social innovations, public policies, long-term care, ageing studies.

SOCIAL INNOVATIONS IN PUBLIC ADMINISTRATION

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ABSTRACT

Social innovations are defined as new ideas (products, services, and models) that simultaneously address social challenges, meet social needs, and create new social relationships among different groups within society. To ensure the effective development of social innovations in public administration, it is necessary to establish a programmatic and infrastructural framework that will be recognized by decision-makers. Over the past decade, scientific research has highlighted the importance of social innovation labs/centers. These are characterized by a high degree of autonomy and support from leadership, which enables them to more easily prepare and implement projects. Analyzing social innovation labs/centers operating within the public sector in Europe, it is possible to define three distinct institutional models: 1. A lab operating within an existing organizational structure at the city, regional, or county level, 2. A lab as an independent organization, and 3. A lab within an association/community of cities or regions/counties. The core logic of social innovation labs is based on the Double Diamond Model, which represents a problem-solving process using divergent (creative) and convergent (analytical) thinking. Some of the most commonly used tools and methods in the work of social innovation labs/centers include: User Journey Map, Empathy Map, ideal user profile, ethnographic research, service prototype, and similar tools. The concept of validated learning, introduced by Eric Ries in his book "The Lean Startup" in 2011, is of particular importance for the development of social innovations. Through validated learning, quality conditions are created for experimentation to gather feedback from end-users of public services. During September 2023, a survey was conducted to assess attitudes toward social innovations at the regional level in Croatia. The results confirmed that regional self-government units actively consider social innovations and have recognized creating supportive conditions for their development as a priority.

Keywords: public administration, social innovations, social innovation Labs/Centers, Double Diamond Model, Validated Learning.

INTEGRATION OF SOCIAL INNOVATIONS INTO THE LONG-TERM CARE SYSTEM IN SLOVENIA BASED ON TESTING THE EFFECTIVENESS OF SERVICES, IMPLEMENTED IN A PILOT PROJECT

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ABSTRACT

The increasing life expectancy and the growing demand for Long-Term Care (LTC) present significant challenges for developed nations in upholding the fundamental right to affordable and high-quality LTC services, as enshrined in Principle 18 of the European Pillar of Social Rights. To address the critical question of establishing a robust social infrastructure encompassing suitable facilities and equipment, efficient supply networks, well-educated and trained personnel, advanced technological support, and sustainable financial mechanisms for the expanding population reliant on assistance, European countries can leverage financial aid from European funds. This article outlines Slovenia's progression from the initial groundwork for pilot project implementation in 2016 to the execution of projects that facilitated the transition to the first comprehensive Long-Term Care Act in 2021.

This paper presents innovative home care solutions deployed in rural regions by the capacity preservation and care teams as part of a pilot project co-funded by the European Commission through the European Social Fund and the Republic of Slovenia. After completing a two-year longitudinal study within the project, data were analysed to evaluate the effectiveness of the provided integrated home care services. The findings of this project were used to develop a model for calculating the social value of social innovations in long-term care. Utilizing actuarial mathematics, this paper demonstrates that the activities of the implemented integrated Long-Term Care (LTC) services, delivered in users' homes, not only maintain but also enhance their functional abilities, thus contributing to cost savings in long-term care expenditures.

Keywords: LTC, EU projects, social innovations, home care, social value.

THE CONCEPT OF SOCIAL INNOVATIONS IN PROVIDING SOCIAL SERVICES: STRESS MANAGEMENT AND THERAPY THROUGH MUSIC, MOVEMENT, AND DANCE

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ABSTRACT

There is a clear correlation between neuroscientific research and the development of social innovations in the field of care for older adults. Research on the impact of music, movement, and dance on the mental health of older individuals is becoming a model for designing new therapeutic and rehabilitative interventions. Modern science agrees with the assertion that the quality of life largely depends on the functioning of the endocrine system. Therefore, the importance of the influence of hormones on the quality of our lives is unquestionable. For instance, the amount of serotonin affects emotional regulation and sleep, as well as energy levels and cognitive function, while dopamine has a direct impact on our mood. Higher levels of dopamine are influenced by activities such as exercising, listening to music, socializing with friends, engaging in creative activities, meditation, and similar pursuits. Over the past decades, the results of numerous neurodevelopmental studies have highlighted the fact that lifestyle habits, healthy nutrition, physical activity, maintaining social contacts, quality sleep, and similar factors are crucial for mental health. In this context, the importance of the impact of music and dance on psychophysical health is particularly emphasized. It is essential to emphasize the importance of quality stress management for maintaining mental health. Considering the challenges individuals face in both professional and private environments, increasing emotional intelligence becomes a necessary condition for maintaining a healthy lifestyle. Recognizing one's own and others' emotions is the foundation of assertive communication and is a necessary condition for establishing a culture of harmonious relationships. Psychologists linked a state of relative comfort with achieving stable results in 1908 and emphasized that true progress can only be achieved if we are willing to step out of our comfort zone into the space of "optimal anxiety."

Keywords: stress management, social innovations, music therapy, movement and dance therapy, endocrine system.

THE CURRENT STATE OF THE PROVISION OF SOCIAL WELFARE SERVICES IN SLOVENIA

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ABSTRACT

Social security represents a broadly designed model of state measures in the housing, education, labor law, and healthcare sectors. In this context, the state ensures the insurance of everyone in case of disability, illness, unemployment, work-related injuries, child support, maternity, family benefits after the death of a relative, and old age. In the last 20 years, the aging population and the associated increase in the number of people needing long-term care have become increasingly pressing social problems in developed parts of the world. Numerous studies have emerged in Europe and globally, emphasizing the importance of a systematic approach to long-term care. Slovenia needed decades of coordination to adopt the first Long-Term Care Act (ZDO-sk) in 2021, which was partially amended by the subsequent government and re-adopted in 2023 (ZDO-sk1). The new Long-Term Care Act is being regulated until the end of 2025. Other important areas include the regulations and guidelines prepared by the Ministry of Labor, Family, Social Affairs, and Equal Opportunities (MDDSZ) and the Social Chamber of Slovenia. Several successful practices in the field of social welfare services (SWS) have been introduced and considered models of quality operation. These practices stem from cooperation between state authorities, local communities, and non-governmental organizations and include innovative approaches to addressing social distress.

Keywords: social welfare services, older adults, mental health, legal regulation, competencies.

CURRENT STATE OF SOCIAL SERVICE PROVISION IN THE REPUBLIC OF CROATIA WITH THE INCLUSION OF SOCIAL INNOVATIONS

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ABSTRACT

Introduction: The Croatian social welfare system provides essential support to vulnerable groups but faces challenges in service accessibility and adaptability. The aim of this research was to analyze current system challenges and identify opportunities for improvement through social innovations.

Methodology: An integrative study was conducted through a systematic literature review following PRISMA guidelines in November 2024. Articles from the Web of Science and Scopus databases were examined using key terms related to social services and innovations in Croatia. After applying inclusion and exclusion criteria, 16 studies were included in the analysis, allowing a comprehensive evaluation of the system and potential reform directions.

Results: The findings indicate that social innovations have considerable potential to enhance quality of life, especially for older individuals, people with disabilities, and those with chronic illnesses. Recommendations highlight the need to decentralize services, integrate social, health, and psychological programs, and adopt modern technological solutions. However, limited financial resources and intersectoral cooperation remain significant obstacles.

Conclusion: The Croatian social welfare system requires reforms focused on decentralizing services, increasing investment, and strengthening intersectoral collaboration. Social innovations, along with aligning legislative framework with European standards, are essential for establishing a sustainable and effective social care system. These findings clearly offer insight.

Keywords: social innovations, social welfare, reform, Croatia, vulnerable groups.

ESTIMATION OF LOGISTICS COSTS WHEN INCLUDING PHYSIOTHERAPY AND OTHER INNOVATIONS IN HOMECARE AND COMMUNITY CARE

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Alma Mater Europaea University, Slovenia

Zavod INRISK, Slovenia

Samo Drobne, Professor

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ABSTRACT

Aging in place means staying in one's own home as long as possible as we age, rather than moving into a retirement or long-term care facility in institutional care. One option is to move into adopted spaces that the community considers their new, adopted home. Such homes make up the Silver Village. Based on the results of the MOST project, ZD0sk and later ZD0sk-1 also included new services, such as the reactivation service, which includes physiotherapy. However, the Act did not specifically highlight the possibility of community care, such as care in specially adapted homes of older adults in a more concentrated village for older citizens who need help from others. In homecare, a large share of costs in rural areas is associated with the travel of caregivers between the cared for. Using sample examples of the routes of social caregivers, physiotherapists, occupational therapists, and health technicians, we show what the share of travel costs is in the total costs of care as composed by the costs of labor and car mileage cost. From these estimates, we will show the difference between the logistical costs of caregivers and the amount of investment that appears in the depreciation costs in the case of community care, where these logistical costs are eliminated. Initial case studies of the construction of the Silver Village in Senovo show that the investment costs are at most 10% of the logistical costs of home care, especially when we include physiotherapists, occupational therapists and medical technicians in the care, as foreseen by the new law.

Keywords: homecare, physiotherapy, reactivation, Silver Village.

NEW PERSPECTIVES IN SOCIAL CARE FOR OLDER ADULTS AND PERSONS WITH INTELLECTUAL DISABILITIES: RESULTS OF INTERNATIONAL FOCUS GROUPS SLOVENIA - CROATIA

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ABSTRACT

Within the CENTINOSS project, which aims to develop innovative models of social care services for older adults and persons with intellectual disabilities in the cross-border area of Slovenia and Croatia, a study was conducted involving two focus groups. These groups comprised experts and other stakeholders in the field of social welfare, and their statements were categorized into five thematic sections: observations, examples of good practice, possible solutions, challenges, and proposals. The analysis indicates that effective support hinges on intersectoral collaboration, heightened public awareness of vulnerable populations' needs, and the strengthening of informal social networks. Among the examples of good practice highlighted by participants were innovative intergenerational programs, tailored forms of support, and a comprehensive approach to users' psychosocial well-being. Possible solutions include developing new care models that encourage the active participation of users and volunteers, as well as establishing sustainable financing and staffing systems. The main challenges identified pertain to limited resources, unequal access to services, and insufficient systematic support at both national and local levels. Proposals based on the findings emphasize closer cooperation among diverse stakeholders, the empowerment of local communities, and an integrated approach to addressing users' needs. The study thus underscores the importance of holistic and adaptive solutions for enhancing the quality of life of older adults and persons with intellectual disabilities, grounded in coordinated efforts by all relevant actors. The insights gained will be applied to further practice development within the project, with the goal of promoting social inclusion, extending the possibility of remaining in one's home environment, and ensuring comprehensive support for users. This strategy is expected to strengthen organizational links on both sides of the border and contribute to higher standards of care and social inclusion.

Keywords: social care, older adults, intellectual disabilities, informal caregiving, social inclusion.

SUSTAINABLE APPROACHES TO SOCIAL CARE FOR THE OLDER ADULTS IN RURAL AREAS

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ABSTRACT

The growing demand for long-term care and the limited availability of institutional care pose significant challenges for rural communities. As societies age, the need for accessible social care increases, yet rural areas often lack essential services such as nursing homes, assisted living facilities, and day care centers. Limited healthcare access, poor transportation, and workforce shortages further exacerbate these issues. Additionally, the outmigration of younger generations leaves many older adults living alone, with reduced informal care and greater reliance on local community support networks.

Alongside institutional care, greater attention is being given to sustainable, community-based social care models that integrate local resources and promote independent living. A particularly promising approach is social care farming, which combines therapeutic, social, and occupational activities. While well-established across Europe, social farms in Slovenia are still developing, presenting opportunities for innovation. These farms integrate nature-based interventions, including animal-assisted therapy, horticultural therapy, apitherapy, and forest therapy, to enhance well-being and support active aging.

By promoting physical activity, cognitive engagement, and social interaction, social farms not only help reduce loneliness and enhance self-esteem but also foster inclusive, age-friendly rural development.

Despite these benefits, the expansion of social farms in Slovenia remains limited by financial constraints, regulatory challenges, and the need for more supportive policies to ensure their long-term sustainability. In this context, this paper examines how nature-integrated, innovative, and community-driven social care models can support active aging and improve the quality of life for older adults in rural areas.

Keywords: sustainable social care, community-based care, social farming, nature-based interventions, aging in rural areas.

ANALYSIS OF DAY CARE CENTERS FOR THE ELDERLY IN SLOVENIA

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ABSTRACT

Day care centers for the elderly and individuals with intellectual disabilities in Slovenia provide essential services aimed at improving the quality of life and fostering social inclusion. These centers offer structured daily activities, including recreational, educational, and therapeutic programs, helping users maintain their cognitive and physical abilities while enabling social interaction. Additionally, they support family caregivers by providing temporary relief from caregiving responsibilities.

Slovenia has several types of day care facilities: elderly day care centers, which help older adults remain in their home environment while engaging in social and recreational activities; occupational activity centers, which provide specialized care and employment under adapted conditions for individuals with intellectual disabilities; and mental health day centers, which offer psychosocial support and therapeutic programs for people with mental health challenges.

Furthermore, there are institutional care services that act as an intermediary between home and full-time residential care, allowing gradual adaptation. The Slovenian government, alongside European Union funding, supports these services to ensure accessibility. Various public and private organizations, including non government organisations, contribute to the expansion of these programs. The ongoing development of day care centers reflects Slovenia's commitment to improving long-term care services, emphasizing the importance of maintaining independence and social connections for vulnerable populations.

Keywords: day care centers, elderly care, intellectual disabilities, mental health support, social inclusion.

DEVELOPMENT OF HEALTH INFRASTRUCTURE IN KOSOVO SINCE INDEPENDENCE 1999

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ABSTRACT

Kosovo's healthcare system is a mix of public and private providers, with the government playing a major role in organizing and financing public health services. The country faces challenges such as limited resources, high out-of-pocket expenses for healthcare, and a relatively low number of healthcare professionals compared to more developed countries. Since declaring independence in 2008, Kosovo has faced numerous challenges and opportunities in developing its health and social infrastructure. This research explores the progress, reforms, and persisting obstacles in Kosovo's healthcare system over the past decades. The latest statistics from the population census in Kosovo reach the number of 1,600,000 inhabitants.

Organized into primary, secondary, and tertiary levels, the system has undergone significant infrastructure rehabilitation, equipment modernization, and facility upgrades. In Kosovo, there are a total of 79 family centers as a primary level, 7 hospitals which belong to the secondary level, as well as the University Clinical Center of Kosovo as a tertiary service. However, low public health expenditure, delayed implementation of health insurance, and a shortage of medical professionals have constrained progress. International partnerships, such as initiatives from the World Bank and WHO, have supported capacity building, governance improvements, and data-driven policy development. This study highlights the critical role of effective policy implementation, equitable financing, and international collaboration in building a robust health and social infrastructure for a developing nation..

The findings provide insights into best practices and lessons for other post-conflict societies striving to enhance health service delivery and social care systems.

Keywords: social infrastructure, health infrastructure, healthcare system.

TRUSTWORTHY ARTIFICIAL INTELLIGENCE FOR DRONE-SUPPORTED AUTONOMOUS WHEELCHAIRS

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ABSTRACT

The development of smart wheelchairs with advanced sensors and depth cameras has been ongoing for years. The European project REXASI-PRO (Reliable & Explainable Swarm Intelligence for People with Reduced Mobility) introduces a novel approach by integrating drones to enhance navigation and risk detection. In scenarios like street crossing, drones provide a broader perspective, improving safety for individuals with disabilities.

A key challenge is ensuring the reliability of artificial vision models, particularly deep learning-based perception systems, which are often opaque („black-box“). Safety standards require rigorous validation, yet AI models struggle with explainability. Addressing this, the project focused on testing hazard detection and obstacle tracking using real-world datasets. Experiments at IDSIA's robotics lab in Lugano compared AI performance with ground truth data from an optical tracking system, enabling fine-tuning of multi-sensor data fusion.

An innovative aspect was dynamically weighting sensor data based on reliability. For instance, in low-light or fog, visible-light cameras are less effective, while radar or infrared may offer better detection. Using probabilistic models like Bayesian networks, the system adapts in real time to environmental changes (e.g., darkness, heavy rain). Simulations accelerated testing under diverse conditions, enhancing risk estimation models for decision-making.

The project, involving international partners such as CNR, British, and Spanish institutions, concludes in 2025 with prototype testing. While designed for wheelchair users, findings apply broadly to autonomous driving and AI-driven vision systems. Additionally, the real-time risk assessment approach could benefit critical monitoring applications and assistive technologies, such as smart glasses for visually impaired individuals.

Keywords: autonomous wheelchairs, drones, trustworthy artificial intelligence.

ANALYSIS OF LONG-TERM CARE NEEDS FORECASTS IN SLOVENIA BY STATISTICAL REGIONS (NUTS-3 LEVEL)

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ABSTRACT

Longevity is reshaping the demographic structure of the population, and the number of studies exploring possibilities for further extending longevity is rapidly increasing. Consequently, the number of individuals requiring long-term care (LTC) is also rising, as the question of extending the period of healthy life remains unresolved. In organizing community care, it is particularly important to statistically monitor the number of people needing healthcare and social care according to care categories. To provide care within specific categories, planning services tailored to community needs, training the required human resources, and ensuring suitable social infrastructure is essential. Local authorities, social welfare services, and spatial planners must examine the logistical, care-related, and housing needs of the elderly, who transition between various forms of community care due to declining functional abilities, ensuring equal conditions for all individuals.

This paper analyzes forecasts of the dynamics of needs and capacity planning for elderly care based on geo-gerontological analyses and projections conducted by the Institute for Risk-Exposed Systems Research for all Slovenian statistical regions (NUTS-3 level). Geo-gerontological projections account for medium and long-term forecasts concerning LTC needs by care category and demographic cohort dynamics.

The paper highlights the importance of understanding geo-gerontological analyses for future LTC planning in Slovenia while raising several issues that municipalities need to address. The analyzed data should primarily serve as a basis for agreements and decision-making by local communities, where projections suggest future changes in planning dynamics and the need for additional financial resources.

Keywords: long-term care, capacity planning, elderly, geo-gerontological analyses, Slovenia.

AI FOR SUSTAINABLE HEALTHCARE DEVELOPMENT IN UNDERSERVED COMMUNITIES: A LEGAL PERSPECTIVE

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ABSTRACT

This paper examines the potential of Artificial Intelligence (AI) to facilitate sustainable healthcare development in underserved communities, particularly in rural settings, while considering the legal landscape surrounding this integration. Rural communities often face significant healthcare challenges due to limited access to medical resources and specialist care. AI, particularly when combined with telemedicine, offers a transformative solution to bridge these gaps. AI-driven diagnostic tools integrated with telemedicine platforms can analyse medical data, including imaging and electronic health records, to support healthcare providers in making accurate and timely decisions. This approach aligns with the goals of medicine by promoting health and ensuring timely care.

However, this technological integration raises critical legal considerations regarding data privacy and security. Existing legal frameworks in India, including the Information Technology Act, 2000 and the Personal Data Protection Act, 2023 must be examined to ensure responsible and ethical deployment of AI. Striking a balance between leveraging AI for healthcare advancements and safeguarding patient rights is crucial. This paper will analyse successful case studies, explore the legal challenges and opportunities, and propose potential solutions for implementing sustainable and legally sound AI-driven healthcare solutions in underserved communities.

Keywords: artificial intelligence, sustainable healthcare development, data privacy, machine learning.

ICT DEVICES FOR INDEPENDENT LIVING OF THE ELDERLY

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ABSTRACT

The recent demographic trends show a rapid increase of aging population. A majority of older adults prefer to stay at home as long as possible. This has also been supported by decision-makers and healthcare providers, as it leads to lower costs for society compared with institutional care.

In the field of healthcare advancement Information and Communication Technology (ICT) solutions may potentially play an important role in enhancing the quality of life of the aging population and allow their independent living. The range of ICT technologies varies between quite simple and very sophisticated ICT solutions, all having the common objective of improving the quality of life of older people. Such ICT solutions can range from smart home systems and tele-health applications to reminder functions, wearable fall detection systems, smartphones, enabling caregivers to monitor seniors' health and well-being from a distance.

However, technology alone is not enough. It is also important to support and increase the digital competencies of older people. Training programs for older users to master technological tools lead to additional benefits, such as increased social networks and reduced loneliness.

Keywords: elderly, independent living, healthcare, ICT, digital competencies.

STRATEGIC COMMUNICATION MANAGEMENT

SCHOLARLY PANEL

DEMOGRAPHIC PROFILE OF SOCIAL NETWORK USERS WITH EXPRESSED HERMIT ARCHETYPE

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Božidar Veljković, Assistant Professor

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ABSTRACT

This research examined the demographic characteristics of social media users who exhibit the dominant Hermit archetype. The study analyzed factors such as age, gender, education level, occupation, religious affiliation, marital status, number of close friends (offline), social media usage (Facebook, Instagram, and others), general life satisfaction, and place of residence (urban or rural area). The findings revealed that individuals with the Hermit archetype tend to engage less with social networks, favoring solitude and introspection. The results highlighted the connection between the Hermit archetype and specific demographic groups, providing insights into their online presence. This study contributed to a deeper understanding of the relationship between archetypal personalities and demographic characteristics in the context of digital platforms.

Keywords: hermit archetype, demographic characteristics, social media, online presence, solitude.

TRANSPARENCY IN COMMUNICATION OF FINANCIAL INSTITUTIONS: IMPACT ON PUBLIC PARTICIPATION AND ENVIRONMENTAL REGULATION

Irena Klepac Mustač, PhD Candidate

Manuela Bukovec, PhD Candidate

Ivana Belić, PhD Candidate

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ABSTRACT

This paper examines the importance of transparency as a factor in the communication of financial institutions and in the process of public participation in environmental regulation. Financial institutions, as key stakeholders in implementing sustainable practices, often influence environmental policies through investments and financial initiatives. The aim of this paper is to explain the impact of transparency in communication on public perception, trust, and engagement in environmental policy-making, as well as to identify key communication factors within financial institutions that affect the effectiveness of environmental regulations. The research focuses on how transparency in communication contributes to building public trust and encourages their engagement in policy-shaping processes. By using qualitative surveys to gather data on respondents' views regarding transparency and its impact on engagement and trust, along with qualitative interviews with representatives from financial institutions and non-governmental organizations, this case study analyzes the role of transparent communication in shaping public opinion and forming environmental regulations. These insights are significant for further exploring transparency as a factor and enriching existing academic literature to inform future guidelines that impact the effectiveness of environmental regulations. Future research should investigate other key communication factors of financial institutions to determine which additional factors, beyond transparency, are crucial for enhancing public trust and support, contributing to more effective and sustainable environmental policy-making.

Keywords: transparency factor, environmental protection, public, consultation, financial institutions.

CREATIVITY AND FUNDRAISING SUCCESS IN AWARD-WINNING ROMANIAN NON-PROFIT CAMPAIGNS

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ABSTRACT

The sustainability of non-profit organizations relies heavily on effective fundraising communication campaigns that capture attention and drive donations. Communication agencies often create innovative campaigns for non-profits, many of which achieve recognition at prestigious creative awards galas. Building on strategic communication theory, this research seeks to adapt two qualitative frameworks to evaluate the creativity and efficiency of fundraising campaigns in Romania. The first adaptation involves an expert-scale for assessing creativity in public relations campaigns originally developed for the for-profit sector, enriched with elements specific to fundraising discourse. The second framework examines the efficiency of achieving fundraising objectives and the dynamics of NGO-Agency collaborations, expanding a quantitative model with questions about integrating the organization's strategic communication into the campaign. By analyzing eight award-winning campaigns recognized by prominent Romanian galas (Effie Awards, Romanian PR Award, Internetics, and Webstock Awards), the study reveals that while creative approaches in non-profit campaigns are often similar to those in commercial campaigns, creativity alone does not guarantee fundraising success, highlighting the importance of strategic alignment and execution.

Keywords: strategic communication, non-profit communication, creativity, fundraising, communication campaigns.

SOCIOLINGUISTIC DEVELOPMENT OF DIGITAL COMMUNICATION STYLE: SLANGS, MEMES, AND TRANSLATION ISSUES

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ABSTRACT

The development of the Internet has turned out to be a revolutionary force in the enormous fabric of human communication. Within the vibrant cultural melting pot that is the Internet, memes and slang are potent representations of contemporary communication. They encapsulate the zeitgeist by reducing nuanced social attitudes into formats that are simple to understand and often entertaining. Their cultural uniqueness, however, creates special translation difficulties.

We'll attempt to explain translation difficulties in this piece due to slang, memes, and the language maze they produce. Memes use pictures and sparse text to express complicated cultural feelings; they are frequently amusing and always relatable. New words or phrases are quickly adopted and adapted as a result of memes' rapid evolution and virality; some of these words or phrases eventually find their way into common speech. due to its speed, digital communication frequently relies on these means of communication, which can result in miscommunications or the loss of cultural perception.

The changing language landscape of the digital age is represented by memes and slang. This is an intriguing but tricky frontier for translators. As we continue to create a worldwide online community, translation skills will need to advance to make sure that everyone becomes involved in the ironic remarks.

Keywords: sociolinguistic, translation challenges, memes, slangs.

GENDER EQUALITY ON SOCIAL NETWORKS: ATTITUDES AND PERCEPTIONS OF SOCIAL NETWORK USERS IN CROATIA

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ABSTRACT

The struggle for women's rights represents a very long and complex story about achieving equality for women that can be observed in different contexts - individual, economic, educational, professional and social. With the development of social networks, it seems that the topic of women's rights is more present in the media space, but also in people's minds. At the same time, social networks are increasingly used for social activism in order to draw attention to the position of vulnerable groups in society, but also to strengthen the resistance of social network users to the use of socially harmful forms of communication such as sexism and hate speech. The paper is divided into two parts - theoretical and research. The theoretical part of the paper analyzes the significance of the concept of gender equality, as well as the issue of the struggle for women's rights in the real, but also in the virtual environment. Furthermore, an analysis of the role of social networks in monitoring social unrest in Iran in 2022 following the death of Mahsa Amini as a consequence of the global struggle for women's rights is also presented. The second part of the paper presents the results of a study aimed at investigating user preferences for the use of social networks in Croatia, users' perceptions of the struggle for women's rights in Iran, and the role of social networks in monitoring the aforementioned case. The study was conducted using an online survey questionnaire in 2024 on a sample of 118 respondents. The results showed a positive correlation between social networks and the struggle for women's rights, as well as that the majority of respondents see social networks as an important channel for spreading awareness about gender equality.

Keywords: gender equality, social networks, attitudes, users, survey.

THE RELATIONSHIP BETWEEN MEDIA AND HEALTHCARE INSTITUTIONS IN THE CONTEXT OF CRISIS COMMUNICATION: TECHNOLOGICAL AND SOCIAL RESILIENCE DURING HEALTH CRISES

Igor Pelaić, PhD Candidate

Stjepan Petričević, PhD

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ABSTRACT

Health crises, such as pandemics and other public health emergencies, underscore the importance of effective crisis communication between healthcare institutions, the media, and the general public. This review paper explores the relationship between the media and healthcare institutions in the context of crisis communication, with a special emphasis on technological and social resilience. The paper analyzes existing theoretical frameworks of crisis communication, including Situational Crisis Communication Theory (SCCT) and trust management models, to examine key strategies and challenges in communication during health crises.

The study draws on theoretical and empirical insights from the fields of crisis communication and institutional trust, utilizing relevant research from literature as well as original research conducted as part of the dissertation. It analyzes the challenges faced by healthcare institutions, including the spread of misinformation, loss of public trust, and the need to adapt communication strategies to different groups. The paper also presents examples of best and worst practices in crisis communication, with a particular focus on the role of the media in shaping public perception.

The conclusion of the paper emphasizes the need for proactive communication strategies, collaboration with the media, and adaptation of technological solutions to enhance the resilience of healthcare systems in future crisis situations. The paper also provides recommendations for strengthening trust between healthcare institutions and the public through transparent and timely communication.

Keywords: health crisis, crisis communication, media, public trust, technological resilience, social resilience.

CRISIS COMMUNICATION IN HEALTHCARE: IMPLEMENTING THE IDEA-COMMTRUST MODEL FOR TECHNOLOGICAL RESILIENCE

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ABSTRACT

Health crises, such as pandemics and other public health emergencies, highlight the importance of effective crisis communication between healthcare institutions, the media, and the general public. This review paper draws on existing literature and previous research to explore the application of the IDEA-CommTrust model, developed to enhance communication and strengthen trust between healthcare institutions and the public during health crises.

The IDEA-CommTrust model is based on an integrated approach that includes identifying key stakeholders, defining clear communication strategies, and utilizing technological tools to improve transparency and the availability of information. The focus of this paper is on technological solutions such as chatbots, online platforms, and artificial intelligence systems that can be used to enhance community communication and reduce the „infodemic”—the spread of misinformation that undermines public trust.

This review analyzes existing communication practices and provides guidelines for implementing the IDEA-CommTrust model in future crises, aiming to improve the resilience of healthcare systems and maintain public trust during times of crisis. The paper is grounded in literature and analysis of existing practices, contributing to an understanding of how technology and appropriate communication strategies can enhance healthcare resilience.

Keywords: crisis communication, public trust, COVID-19, IDEA-CommTrust, technology, healthcare resilience.

STRATEGIC COMMUNICATION MANAGEMENT IN HEALTHCARE: PREPARING FOR UNPREDICTABLE CRISES AND CHALLENGES IN THE 21ST CENTURY

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ABSTRACT

Crisis communication in healthcare institutions is essential for managing threats to patient safety and institutional integrity by reducing panic, spreading accurate information, and maintaining trust. Research aimed to evaluate the satisfaction levels of patients and healthcare employees with crisis communication strategies and explore differences in perception between these groups and among employees at different healthcare levels. Three hypotheses were tested: H0: Patients and employees in healthcare institutions express a moderate level of satisfaction with the effectiveness of crisis communication strategies; H1: There is no significant difference in the perception of the effectiveness of crisis communication strategies among patients and employees in health institutions; H2: There is a significant difference in the attitudes of employees, depending on the level of health care, about the preparedness of the institution for crisis situations. The study included 104 patients and 105 employees from primary, secondary, and tertiary healthcare institutions. A Scale of Perception of Crisis Communication Effectiveness was developed for the research. Data were collected in Croatia from March to September 2024 and analyzed using SPSS23. Results confirmed all hypotheses, emphasizing the need for improved crisis communication strategies, particularly personalized approaches for vulnerable groups and better use of digital tools for accurate information dissemination.

Keywords: strategic communication management, crisis communication, healthcare, patients.

GENDER DIFFERENCES IN SUSTAINABILITY ADVOCACY AMONG GENERATION Z IN CROATIA: THE INFLUENCE OF SOCIAL MEDIA AND CONSUMERISM

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Irena Klepac Mustać, PhD Candidate

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ABSTRACT

The increased focus on sustainability has positioned Generation Z as a key demographic in advocating for environmental and social change, with findings more frequently associated with female respondents. Social media has proven to be a significant driver, shaping attitudes and behaviors, particularly among women, while consumerism simultaneously acts as both a motivator and a barrier to sustainable practices. Therefore, this study examines the role of gender differences within Generation Z in promoting sustainability in Croatia, with an emphasis on the influence of social media and consumer behavior. The research will include participants aged 16 to 27 to assess their exposure to sustainability-related content on social media and their sustainability advocacy activities. The findings will address whether female members of Generation Z are more inclined toward sustainability advocacy compared to their male counterparts, the extent to which social media influences the level of sustainability advocacy among women in Generation Z, and how consumer behavior patterns impact attitudes toward sustainability. The results will provide valuable implications for brands, policymakers, educators, and employers aiming to engage Generation Z more effectively in sustainability initiatives. Future research should explore these dynamics across different cultural and geographical contexts to enhance the understanding of gendered sustainability advocacy in the digital age.

Keywords: Generation Z, sustainability advocacy, gender differences, social media, consumer behavior, sustainability.

THE NEED TO BUILD RESILIENCE AGAINST CLICKBAIT AS A CONTROVERSIAL TACTICS IN ONLINE MEDIA

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ABSTRACT

Clickbait, a controversial strategy in online media, is the embodiment of the tension between journalistic integrity and market-driven pressures. Emerging from the digital advertising domain, clickbait employs sensationalist headlines or provocative visuals to maximize user clicks, often leading to content that fails to fulfill its promises. This practice capitalizes on the "curiosity gap," enticing readers by creating an expectation of valuable information while delivering little substance.

Clickbait's rise underscores the transformation of journalism under the influence of commercial imperatives. Traditional journalistic standards, which emphasize factual accuracy and public interest, are increasingly overshadowed by the drive to attract digital audiences. This shift, rooted in the economic model of online platforms, positions reader engagement as the primary currency, aligning editorial decisions with advertiser interests rather than journalistic ethics.

In Slovenia, as explored in recent studies, the clickbait phenomenon lacks both formal recognition and regulation, allowing its unchecked proliferation in the media landscape. While self-regulation initiatives exist, their effectiveness remains limited, raising concerns about the ethical implications and the erosion of public trust in journalism. Addressing clickbait requires a balanced approach—integrating clear legal frameworks and ethical codes to curb deceptive practices while preserving media freedom and innovation. With that we would build a better resilience against false information.

Keywords: spread of false information, clickbait, controversial tactics in online media, ethics, advertising, journalism.

A METHODOLOGICAL OVERVIEW ABOUT ACADEMIC RESEARCH ON NEWS REPORTING ABOUT SYRIAN REFUGEES

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ABSTRACT

The purpose of this paper is to investigate epistemological perspectives through academic research on news reporting about Syrian refugees in Turkey. The primary aim is to analyze how these studies portray Syrian refugees and how the interplay between news, social reality, and research methods shapes this representation. This paper employs two significant tools such as Teun A. van Dijk's (1988) Critical Discourse Analysis and Andrew Sayer's (1992, 2000) social science concepts such as "thought objects" and "social reality." A key finding is that researchers primarily use content analysis and discourse analysis to explore how news depicts Syrian refugees. This depiction generally falls into categories of negative, positive, or neutral representation. However, understanding news from an epistemological standpoint is more complex than relevant simple categorization. This research seeks a broader approach that connects social realities with news coverage. The conclusion is that an epistemological perspective on news requires a deeper understanding of Syrian refugees as real individuals, the war as a factual event. Besides, research about the news requires careful analysis and historical and epistemological perspective to build the relation between Syrian refugees as social reality and the concept of news.

Keywords: refugee, Syria, epistemology, news, social reality.

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MANAGEMENT

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SCHOLARLY PANEL

THE RISE OF AI IN THE EDUCATIONAL LANDSCAPE FOR PROJECT MANAGERS

Reinhard Wagner, Assistant Professor
Alma Mater Europaea University, Slovenia

Karolina Novinc, Student Masters
University of Applied Sciences 'Lavoslav Ružička', Croatia

Mladen Radujković, Professor
Alma Mater Europaea University, Slovenia

ABSTRACT

The application of artificial intelligence (AI) is increasingly taking up space in projects and project management. This trend is driven by the potential benefits that AI can bring to project management. However, since project managers still have limited competence in using AI technologies, educational opportunities are increasingly in demand. However, it remains unclear what specific requirements AI users have in projects and which training programs are effective. Therefore, our research aimed to identify the requirements, the training programs offered, and the need for education to utilize AI in project management. Ultimately, we sought to clarify how appropriate educational offers could effectively improve the application of AI in project management.

Based on a systematic literature analysis, we researched the requirements of AI users in education projects and the courses currently available. The analysis reveals that integrating AI technologies is transforming the project management landscape. Studies indicate that professionals must develop technical and soft skills to effectively leverage AI tools. This dual focus is crucial as AI enhances decision-making, resource allocation, and risk management processes. Overall, our results confirm that educational programs should be refined and AI application competences should become an integral part of project management curricula.

Keywords: artificial intelligence, project management, education, technology acceptance.

PROJECT GOVERNANCE IN PLACE-MAKING

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ABSTRACT

Placemaking (or place-making) is commonly understood as a practice of designing, creating, and programming public spaces to meet the needs and desires of communities and users, or in other words, enhancement of places to turn them into useful and meaningful spaces. This umbrella notion encompasses several related (sub)disciplines, like place marketing, branding, management, development, etc. Somewhat humorously, but place-making has been collated with project-making. This reflects an overall trend – projectification. Developmental activities (both 'hard' and 'soft') in placemaking are project-based by nature; not to mention different events, like concerts, festivals, etc. We assume that management of projects in placemaking is almost the same as management of similar projects in other fields. Our main preposition is that governance of projects in placemaking is more specific and thus needs special approach. The governors or owners of place-making-related projects face specific (sometimes 'wicked') problems and must deal with myriads of stakeholders and interests. Governance of projects in placemaking deserved little attention in academic literature, still there is something. Thus, we start from reviewing relevant literature, accessible via leading academic databases. Then we analyse the results chiefly qualitatively and try to synthesize recommendations for further development and research.

Keywords: project governance, place-making.

FROM 'DIGITAL FIRST' TO 'DIGITAL FOR PEOPLE': LEADERSHIP AS AN INTERFACE BETWEEN AI, QUANTUM COMPUTING AND SOCIAL RESILIENCE

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ABSTRACT

The world we live in is becoming increasingly fast-paced. New (technical) innovations are constantly creating competitive pressure on the market and for organizations. New technologies, such as AI-systems, are already having a far-reaching impact on our lives. And we have barely entered the digital age when the quantum computer (QC) will soon have a lasting impact. At the same time, humanity is facing key challenges such as the climate crisis and political instability. In our presentation, we want to focus on the interface between the technical innovation of QC, AI and leadership. After all, technical innovations offer a wide range of possible applications and are a tool for meta-innovation. However, not every 'novelty' is necessarily a blessing. Our main thesis is therefore: Technological innovation and its potential for meta-innovation requires more innovation quality and therefore leadership. Leadership therefore is always determined by normative aspects and should place an increasing focus on ethical aspects to drive (technological) innovations forward in a right manner. This quality should be determined by the well-being of individuals and the creation of value in society (not purely profit or GDP). An increase of normative (and ethical) aspects of leadership can thus lead to an increase in social-technological resilience.

Keywords: technological revolution, meta-innovation, (ethical) leadership, social welfare.

INVESTIGATING THE PROJECTIFICATION OF SOCIAL ENTERPRISES WITH ITS IMPACT ON SOCIAL ENTREPRENEURSHIP BY COMPARING TWO SMALLER COUNTRIES

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ABSTRACT

This study explores the projectification of social enterprises and their impact on social entrepreneurship by comparing two smaller countries, Nepal and Slovenia. Projectification refers to the increasing reliance on project-based approaches for organising work and achieving social goals. The research looks into how social enterprises in Nepal and Slovenia employ project-based strategies to enhance their sustainability and effectiveness. The comparative analysis reveals significant differences in the levels and impacts of projectification, shaped by distinct cultural, economic, and institutional contexts.

In Nepal, projectification is driven by community engagement, external funding, and government support, leading to greater local empowerment and sustainable development. Conversely, Slovenian social enterprises benefit from a culture of innovation, EU funding, and strong institutional backing, enabling them to address complex societal issues more effectively. The study utilises institutional and sociological theories to analyse the interactions between actors and institutions in the projectification process. Findings suggest that project management associations play a crucial role in shaping the norms and practices within social enterprises. This research deepens the theoretical understanding of projectification and provides practical insights for social entrepreneurs, policymakers, and project management associations. Future research should further investigate this phenomenon through detailed case studies and quantitative analysis to promote the growth and impact of social enterprises globally.

Keywords: projectification, social entrepreneurship, comparative study, institutional theory, sociological theory.

ZOON PROJEKTIKON: NAVIGATING THE ROLE OF „PROJECT BEINGS“ WITHIN SUSTAINABLE PROJECT MANAGEMENT IN THE AGE OF GENERATIVE AI

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Wyg savjetovanje, Croatia

ABSTRACT

Generative AI is already widely present in project management. In addition to commonly used tools, the amount of input these tools use increases and provides higher quality. However, the question arises of to what extent AI tools can help project managers solve certain situations related to the project's contribution to sustainable development, without or within the given context; in other words, do the Generative AI tools impact project managers to be less Zoon Projektikon ("Project being").

The paper is based on a case study in which different situational questions concerning planet, people, and prosperity contributions were asked of project managers and generative AI tools. The analysis of the responses showed that generative AI tools provide different proposals for solving situations, just like project managers. The difference arises when the three separate situations are in a shared context.

In this case, the generative AI tools showed different answers in contrast to the proposed solutions offered by the project manager. The conclusion is that, at the moment, AI can be a helpful tool that project managers will use to simulate options analysis for individual situations; however, when the problem is more complex and contextual, project managers provide more complete solutions.

Keywords: sustainable project management, Generative AI, zoon projektikon ("project being").

TECHNOLOGY SOLUTIONS OF THE SHARING ECONOMY AS A TOOL FOR SUSTAINABLE DEVELOPMENT

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College of Applied Psychology, Czechia

ABSTRACT

The sharing economy, enabled by advances in digital technologies, represents a paradigmatic change in how we consume and use resources. Our contribution focuses on the potential of technological solutions within the sharing economy to contribute to sustainable development, which consists of more efficient use of resources through the sharing of goods and services, reducing emissions through shared mobility, and increasing the sustainability of consumption through the use of various platforms, as well as in the various social and economic benefits provided by the sharing economy (e.g. creating new job opportunities, supporting local communities and increasing social inclusion). To fully exploit this potential, it is necessary to ensure a comprehensive approach to their successful implementation, which considers not only economic but also social and environmental aspects.

Keywords: *the sharing economy, sustainable development, technology, efficient use of resources, reducing emissions, sustainable consumption.*

CIRCULAR BUSINESS MODELS - NECESSITY OF KNOWLEDGE SPREAD FOR BUSINESSES

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ABSTRACT

Recent worldwide scientist's discussions about necessity to change attitude towards environment to achieve sustainable development made impact in a few ways. First of all, societies in various countries started more educating people about sustainability, ecology and necessity to change habits to achieve better results for environment. European Union agreed about Green Deal agenda for the 2050. Each of the countries started step by step changes. One of the possible business change for more sustainable future is to turn towards Circular economy (CE) and implement circular business models. Business managers research states that knowledge of business entities about Circular economy and possible circular business models is comparing low. The presentation will be covering research findings and knowledge gaps in Circular economy and it's implementation. Research show necessity to spread knowledge about existing CE business models and modification Circular business models for various other industries.

Keywords: circular economy, business models, economic return.

SOCIETAL DEVELOPMENT THROUGH AN OCCUPATIONAL HEALTH AND SAFETY PROJECT

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ABSTRACT

The term "society" refers to "a large group of people who live together in an organized way, making decisions about how to do things or sharing the work that needs to be done", and the term "societal" refers to "relating to or involving society", and the term "development" refers to "the process in which someone or something grows or changes and becomes more advanced". Lichum stated that "societal" refers to the relational capacities of a citizen and of a community - capacity for plurality, acceptance and affirmation of the value of otherness, ability to relativize one's own identity, values and visions, capacity for cross-identification and, on this basis, for solidarity. Wallerstein emphasized that "the terms, society and development, are two of the most common, most ambiguous, and most deceptive words in the sociological lexicon". McNeil and Woolcock defined the term, societal development, as "strengthening the process by which good policies are generated and translated into concrete results, and involving giving attention to broader society issues such as behaviors, cultures, norms and incentives".

The aim of this article is to discuss how to improve societal development through conducting Occupational Health and Safety Project using ISO 45001.

Keywords: societal project, occupational health, safety project.

EXPLAINABLE ARTIFICIAL INTELLIGENCE IN THE CREDIT VERIFICATION PROCESS

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ABSTRACT

Credit offering has formed part of sustainable development over the years, as it provides access to economic opportunities for the underprivileged. Explainable Artificial Intelligence (XAI) plays a vital role in credit scoring, where transparency and interpretability are crucial for fostering trust, ensuring regulatory compliance, and mitigating biases in financial decision-making. Despite its high predictive accuracy, the AdaBoost algorithm has been criticised for its lack of interpretability, which can hinder its adoption in sensitive domains such as credit verification. This study aims to explore the integration of the XAI technique using Local Interpretable Model-agnostic Explanations (LIME) to enhance the transparency of AdaBoost-based credit verification models. We analyse the key features driving model predictions using a publicly available credit dataset and assess the trade-off between interpretability and predictive performance.

The findings reveal that XAI methods can effectively decompose the complex decision-making processes of AdaBoost, providing clarity into the factors (which were Debt to income ratio, delinquency and the credit age) influencing credit decisions for specific customers while maintaining high classification accuracy. However, the study highlights certain limitations, including utilising publicly available data instead of real data; further, large language models may be beneficial in making the models understandable through natural language. These insights contribute to advancing the development of explainable credit scoring models, ensuring their alignment with ethical and regulatory requirements while maintaining robust predictive capabilities.

Keywords: credit verification, LIME, LLM.



ARCHIVE SYMPOSIUM

AS PART OF THE 13TH INTERNATIONAL SCIENTIFIC CONFERENCE
"IT'S ABOUT PEOPLE"



ARCHIVAL SCIENCES (YESTERDAY, TODAY, TOMORROW)

Peter Pavel Klasinc, Associate Professor, Alma Mater Europaea University, Slovenia

ARCHIVAL SCIENCES YESTERDAY, TODAY AND TOMORROW – STUDY APPROACH

- **Zdenka Semlič Rajh**, Associate Professor, Alma Mater Europaea University, Slovenia
- **Dieter Schlenker**, Assistant Professor, Director of the Historical Archives of the European Union, Italy

FOCUS OF COMMENTATORS ON ARCHIVAL SCIENCES

Key themes included:

- The establishment of archival sciences as an independent, academic, multidisciplinary, and interdisciplinary field.
- The positioning of archival sciences within the natural and social sciences.
- The promotion of archival sciences at national, societal, community, and educational levels.
- Raising awareness of the importance of scientific research within archival sciences.
- Organizing national and international projects in the field of archival sciences.
- **Maryna Paliienko**, Professor, Taras Shevchenko National University of Kyiv
- **Bogdan-Florin Popovici**, Assistant Professor, National Archives of Romania
- **Karen Trivette**, PhD Candidate, Alma Mater Europaea University, Slovenia
- **Stefano Allegrezza**, Associate Professor, University of Macerata, Italy
- **Adriano Buzzanca**, PhD, Director of the Bari State Archives, Italy
- **Grazia Tato**, Professor, University of Trieste, Former Director of the State Archives of Trieste, Italy
- **Luciana Duranti**, Professor, School of Information, The University of British Columbia, Canada
- **Miroslav Milovanović**, PhD, Alma Mater Europaea University, Slovenia

LEST WE FORGET: ARCHIVES AND SUSTAINABLE MEMORY

Karen Trivette, PhD Candidate
Alma Mater Europaea University, Slovenia

ABSTRACT

There is no better tool to rely upon regarding good decision-making in the present than one's memory of the past. After all, people seek precedent to manage the many challenges they face and opportunities they wish to leverage. However, memory alone is often flawed and as such, society must turn to another source for sustainably credible, evidence-based recall. This source is the archival record as archives are society's ultimate model of sustainable memory. This paper will examine how society has and can depend on archival records to meet the challenges of the present and to inform and influence the opportunities in the future. The author also will explore memory studies as a discipline adjacent to and aligned with archival science and how the former might influence the latter.

Keywords: *archives, archival science, memory, human experience, sustainability, memory studies.*

STUDY PROGRAMMES ACCREDITED AT ALMA MATER EUROPAEA UNIVERSITY

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