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burnout etc.) have spread over the past few decades among working age populations in Western countries. This presentation will deal with the key production- and culture-related mechanisms that have provoked the emergence of mental vulnerability among the working aged in 1960–2020. The objective of this presentation is to form a more historically-based understanding of mental health at work.

The main body of empirical data will be drawn from Finland, which has transformed exceptionally rapidly from a country with a strong secondary production and material poverty to a country with an advanced high-tech and service sector – and a high level of mental vulnerability.

I will present an empirical strategy to examine mental vulnerability by combining approaches from social sciences, history, and epidemiology. It includes a detailed analysis of people’s accounts (e.g., expert interviews, archival documents, occupational journal materials), but also uses mental national health records (e.g., drug prescriptions, sick leaves) and other long-term structural materials. Several empirical examples will be presented from various sub-studies conducted over the recent years. For instance, occupational experiences among teachers and occupational health professionals will be dealt with. These materials will illustrate how the mental health became a problem in different parts of working life and how different societal transitions (both work-related and cultural) fuelled the emergence of this challenge.

The presentation brings to the fore perspectives that have not genuinely interacted, or that have remained silent in the study of occupational mental health. This presentation questions our contemporary wisdom regarding mental health at work, relocates this challenge in a transitioning society, and opens a new avenue for understanding the paradoxical nature of mental vulnerability in current working life.

**Special Sessions**

**SPL24**

**Reform of Occupational Health Authority in China and its perspectives**

Sun Xin

**Special Session 1 Occupational health and safety implications for the post pandemic workplace**

Chair: Karen Michell and Su Wang

**Session introduction**

The Covid 19 pandemic had and continues to have a significant impact on the world of work as we know it. From this global experience has emerged tragic reports of the devastating impact of the pandemic on organisations and individuals alike through lockdowns, market insecurities and the negative impact on mental and physical health. Yet, we have witnessed how agile organisations with employee health, safety and wellbeing at the heart of their organisational culture have forged their way through the pandemic and have emerged as better workplaces. One of the lasting impacts of Covid 19 will be to the health of those who have suffered mental and physical health issues. Interventions will be necessary to ensure recovery as demonstrated through the MENTUPP programme.

**Sp1-1**

**Aviation’s Aerotoxic Syndrome in a post pandemic world**

Susan Michaelis

Occupational and Environmental Health Research Group, University of Stirling, Stirling, United Kingdom

Introduction: While there is strong interest in aircraft air quality in respect to COVID-19 and emissions into the environment, the concerns regarding oils and hydraulic fluids leaking into the aircraft air supply and cabin have yet to receive the same level of attention. This is despite considerable knowledge about this design problem first recognised in the late 1930s.

Materials and Methods: A brief review of what we know, and the various current activities related to aircraft bleed air contamination will be undertaken in order to determine what are and why it may be necessary to implement various mitigation strategies.

Results: Aircrew, aviation workers and passengers are exposed to low levels of engine oils and hydraulic fluids on a regular basis in normal flight. There have been considerable initiatives over the past two decades exploring this topic and assessing if there is a need and what steps may be undertaken to mitigate the risk of exposing aircrew and passengers to particles and contaminants that enter the air supply either in normal operations or during a failure event. The aviation industry has not given the same attention to bleed air contamination of the air supply as it has to contamination due to COVID-19 and emissions into the outside environment.

Conclusions: Aircrew and passengers are exposed to low levels of ultrafine particles and chemical compounds that enter the aircraft breathing air supply in normal operations, which require a range of risk mitigation strategies to be undertaken.

**Sp1-2**

**Learnings from the MENTUPP Project: The Impact of the COVID-19 Pandemic on the Mental Health of SME Employees**

Ella Arensman

School of Public Health, National Suicide Research Foundation, University College Cork, Cork, Ireland

Introduction: MENTUPP is a multi-level intervention aimed at promoting mental wellbeing in the workplace, addressing clinical and non-clinical mental health issues and reducing stigma in SMEs. Within the context of MENTUPP, a study has been conducted to explore the impacts of COVID-19 on the mental health of SME employees.

Materials and Methods: A researcher-designed, semi-structured, online survey was completed anonymously by key stakeholders across nine countries in Europe and Australia. Key stakeholders (N=65) included representatives from academia, SMEs, occupational health associations, labour and advocacy groups, and representatives from the construction, health and information technology sectors. They were from countries with established mental health provisions (Central and Western Europe) and countries with lower resources (Central and Eastern Europe).
Results: An overview of the MENTUPP project will be provided, followed by outcomes of the online survey. Stakeholders across different countries and sectors agreed that COVID-19 pandemic has increased clinical and non-clinical mental health issues in SMEs. Experts in Central and Western Europe reported that the capacity of workplaces to promote wellbeing decreased due to COVID-19, and experts from Eastern and Central Europe thought that this did not change much. Mental health stigma has reportedly remained the same, however, mental health awareness may have increased. Conclusions: This study observed that the COVID-19 pandemic has negatively impacted employee mental health indicating the timeliness to introduce a targeted intervention, such as MENTUPP.

**Sp1-3**

**People sustainability and Covid-19: challenges, lessons learnt and the future of health, safety & wellbeing in a VUCA world. A L’Oréal case study**

Malcolm Staves

Health & Safety, L’Oréal, Paris, France

Introduction: In 2020, L’Oréal, as with many other companies saw the value of its shares fall as Covid-19 traversed the world. However, as many parts of the world eased lockdowns and entered their “new normal” L’Oréal is recognised as one of the most successful companies to survive the pandemic. The author believes this is as a result of L’Oréal putting its people and their health, safety and wellbeing firmly in the center of its values.

Materials and Methods: A case study

Results: The author provides insights into how L’Oréal adapted globally, and continues to do so, to address the challenges posed by the Covid-19 pandemic and describes how their approach to the pre-covid volatile, uncertain, complex and ambiguous (VUCA) world helped them be “ready” and agile for the unthinkable. From his unique position within the Global Crisis Management committee, the author will give an overview of the critical and central role of the Occupational Health and Safety network to the deployment of internal and external resources to keep their people healthy and safe, both at work and at home.

Conclusion: The author shares practical experience and lessons learnt from Covid management across a multinational organisation, and explores what this means for the future of health and safety and the profession.

**Special session 2 Working towards a healthy longer working life?**

Chair: Jodi Oakman

**Session introduction**

In most developed countries, there is an aging population and life expectancy is increasing. Together with the pressure on the social security system, this has led to a rise in the retirement age. This however raises the question on the impact on health. This special session focusses on the topic of retirement age and the impact on health. The presentations are about studies that used a variety of methodologies, including a meta-analysis, epidemiological analyses and forecasting models to investigate the health effects of retirement age.

**Sp2-1**

**Designing interventions to maintain work ability**

Paul Rothmore and Susan Williams

School of Allied Health Science and Practice, The University of Adelaide, Adelaide, Australia

Introduction: The working population is ageing and people are now encouraged to work for longer. As a result many workers are extending their exposure to musculoskeletal risk factors when their work capacity is declining. This study aimed to examine the outcomes, over 3-years, in Work Ability Index (WAI) scores in a cohort of outdoor workers following application of the APHIRM (A Participative Hazard Identification and Risk Management) toolkit.

Materials and Methods: The APHIRM toolkit and WAI were administered to 155 Council workers. Based on responses, action plans were developed and workplace changes implemented. Three-years post-implementation, workers were resurveyed.

Results: In the primary analysis we used linear mixed-effects models to examine associations between WAI scores at baseline and follow-up. Analysis was undertaken for all workers who completed pre- and post-surveys (matched and unmatched) and those who were ≥50 years old (matched and unmatched). No significant differences were seen. We undertook secondary analysis, using bivariate linear regressions, to examine associations between risk factors and WAI scores. This identified that six of the 18 psychosocial risk factors and 3 of the 8 physical risk factors which were associated with reduced work ability at baseline, were no longer significant.

Conclusions: Significant declines in mean work ability scores over time have been previously reported in the literature but not seen in our study. Our results indicate that the APHIRM toolkit may be effective in identifying hazards which, if addressed, could contribute the maintenance of work ability over time.

**Sp2-2**

**Effect of a workplace factors and intervention on retirement pathways**

Subas Neupane¹, Salla Kyrölähti¹, Jodi Oakman² and Clas-Håkan Nygård³

¹Tampere University, Unit of Health Sciences, Faculty of Social Sciences, Tampere, Finland, ²La Trobe University, School of Psychology and Public Health, College of Science, Health and Engineering, Bundoora, Australia

Introduction: The study examined the effect of workplace interventions on the different retirement types and which work-related factors predicted disability pension.

Materials and Methods: A quasi-experimental study among Finnish food industry employees was conducted between 2003 and 2009. Data from 265 individuals who participated in the questionnaire surveys and had information on their pension type were analyzed in this study. In total 110 participated in the senior program and 155 were the controls. The intervention, so called “senior program” aiming to maintain and promote work wellbeing and work ability among employees aged 55+ years was implemented as voluntary program in the company in 2004 and continued as a normal